SONY

CCD UNIT

OHB-730/730P
OHB-750A/750AP
OHB-730WS/730WSP
OHB-750WSA/750WSAP

CAMERA UPGRADE BOARD
BKP-7091

Power HAD 1000

MAINTENANCE MANUAL
1st Edition (Revised 3)

⚠警告

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お客様が，このマニュアルに記載された設置や保守，点検，修理などを行うと感電や火災，人身事故につながることがあります。
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⚠WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

OHB-730 (UCJ)	Serial No. 10001 and Higher
OHB-730P (CE)	Serial No. 40001 and Higher
OHB-750A (UCJ)	Serial No. 10001 and Higher
OHB-750AP (CE)	Serial No. 40001 and Higher
OHB-730WS (UCJ)	Serial No. 10001 and Higher
OHB-730WSP (CE)	Serial No. 40001 and Higher
OHB-750WSA (UCJ)	Serial No. 10001 and Higher
OHB-750WSAP (CE)	Serial No. 40001 and Higher

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Manual Structure

Purpose of this manual

This manual is the maintenance manual for CCD unit OHB-730/730P/730WS/730WSP, OHB-750A/750AP/750WSA/750WSAP and Camera upgrade board BKP-7091.
This manual describes the information items that premise the service based on the components parts such as alignment, schematic diagrams, board layouts and spare parts lists, assuming use of system and service engineers.

Contents

The following are summaries of the each section for understanding the manual.

Section 1. Service Overview

Describes information about notes on service, connector input/output signals and replacement of main parts.

Section 2. Electrical Alignment

Explains the general information for adjustment procedures and the electrical adjustments of this unit.

Section 3. Spare Parts

Describes parts list, exploded views and supplied accessories used in the unit.

Section 4. Semiconductor Pin Assignments

Describes function diagrams and pin names of semiconductor used in the unit.

Section 5. Block Diagram

Describes overall block diagram and block diagrams for every circuit board.

Section 6. Schematic Diagrams

Describes schematic diagrams for every circuit board and frame wiring .

Section 7. Board Layouts

Describes board layouts for every circuit board.

Relative manual

Besides this maintenance manual the following manual is available for this unit.

- **Installation Manual (Supplied with this unit)**
  This manual is necessary when the unit is supplied and installed.

Section 1
Service Overview

1-1. Notes on Service

1-1-1. Note in Replacing the TG-194 Board

When replacing the TG-194 board with a new one, remove the two PROMs (IC12 and IC24) on the new board and replace them with the PROMs that were mounted on the former TG-194 board.

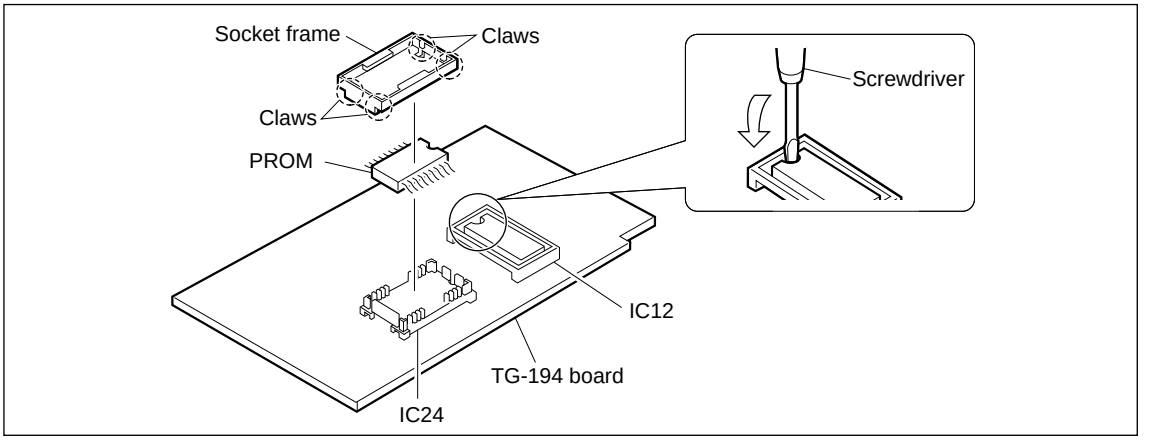
Note in Replacing a PROM

To remove a PROM, remove its socket frame.
This socket frame is so fragile. When removing the socket frame, therefore, it is recommended to use a special removing tool listed below. If it is not available, use a small slotted screwdriver or similar item as a substitute for it.
To remove the socket frame by using a screwdriver, proceed as follows.

IC socket removing tool: Sony part No. J-6394-110-A
Socket frame: Sony part No. 1-540-194-12

Removing a socket frame (by using a screwdriver)

Insert the screwdriver as shown in the figure and push it lightly in the direction of the arrow to unhook the frame socket.



1-1-2. Note in Replacing the OHB

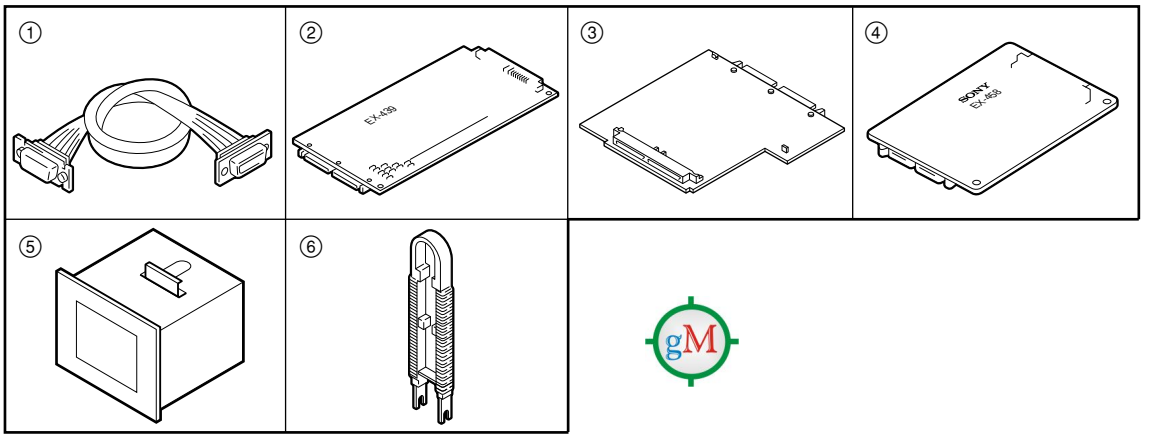
The OHB-730WS/730WSP/750WSA/750WSAP comes with the RC-68 board to switch aspect ratio between 16:9 and 4:3. The RC-68 board is installed on the DA-128 board of the BVP-900/900P or the DA-129 board of the BVP-950/950P. For details on installation, refer to the installation manual supplied with the OHB.
The OHB-730/730P/750A/750AP does not come with the RC-68 board. When replacing any of OHB-730/730P/750A/750AP with any of OHB-730WS/730WSP/750WSA/750WSAP, leave the RC-68 board in place, or replace the RC-68 board with the CN-1566 board, which is supplied with the camera. Without any board connected, normal video will not appear.

Note

When installing the OHB-730WS/730WSP/750WSA/750WSAP in the BVP-700/700P or BVP-750/750P, the RC-68 board is not needed because these cameras do not include the DA-128/129 board. Therefore, the BVP-700/700P/750/750P cannot switch aspect ratio between 16:9 and 4:3.

1-1-3. Optional Fixtures

Description	Sony Part No.	Remarks	Fig.
OHB extension harness	J-6394-290-A	Extending OHB from a camera	①
Extension board EX-439	A-8314-124-A	Extending plug-in boards for BVP-900/700	②
Extension board EX-464	J-6395-040-A	Extending plug-in boards for BVP-950	③
Extension board EX-458	A-8265-739-A	Extending plug-in boards for BVP-750	④
Pattern box	J-6029-140-B	Electrical Alignment	⑤
Grayscale chart (transparent)	J-6026-130-B		—
or			
Grayscale chart (reflective)	———	(Commercially available Refer to Section 2-1-5 for details.)	—
IC socket frame removing tool	J-6394-110-A	Replacing EPROM	⑥
ROM for adjustment	J-6470-480-A	Electrical Alignment	—



1-1-4. Notes on Spare Parts

1. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.

Parts list has the present standardized repair parts.

2. Stock of Parts

Parts marked with “o” at SP(Supply Code) column of the spare parts list may be not stocked. Therefore, the delivery date will be delayed.

3. Units Representation

The following represented units are changed or omitted in writing.

Units		Representation
Capacitance	µF	uF
Inductance	µH	uH
Resistance	Ω	Abbreviation

4. Destination Representation

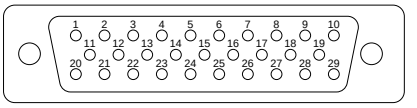
The part indicated “For UCJ/CE” in the spare parts list is used in the unit written below.

For UCJ : The part is used in a unit for Japan, U.S.A. and Canada

For CE : The part is used in a unit for regions except the above countries.

1-2. Connector Input/Output Signals

D-sub 29P (Male)



(External view)

Pin No.	Signal	I/O	Specifications
1	R VIDEO (G)	OUT	GND for R VIDEO
2	R VIDEO (X)		V 500 mVp-p, 100% white, positive, Zo = 22 Ω
3	G VIDEO (G)	OUT	GND for G VIDEO
4	G VIDEO (X)		V 500 mVp-p, 100% white, positive, Zo = 22 Ω
5	B VIDEO (G)	OUT	GND for B VIDEO
6	B VIDEO (X)		V 500 mVp-p, 100% white, positive, Zo = 22 Ω
7	GND		
8	GND		
9	−11.5 V	IN	−11.5 Vdc
10	GND (UNREG)		
11	+15.5 V	IN	+15.5 Vdc
12	+8.0 V	IN	+8.0 Vdc
13	+5.5 V	IN	+5.5 Vdc
14	(Spare)		
15	ND POSITION	OUT	ND-1: 0.4 Vdc ND-2: 1.45 Vdc ND-3: 2.50 Vdc ND-4: 3.55 Vdc ND-5: 4.60 Vdc
16	RXD	IN	CHU ⇨ OHB, 0 to 5 V
17	S.LD	IN	Serial data load pulse input
18	−3.5 V	IN	−3.5 Vdc
19	UNREG	IN	+10.5 to 17.0 V
20	HD	IN	0 to 5 V, negative
21	+6.5 V	IN	+6.5 Vdc
22	VD	IN	0 to 5 V, negative
23	DIAG	OUT	Open collector
24	CC POSITION	OUT	CC-1: 0.4 Vdc CC-2: 1.45 Vdc CC-3: 2.50 Vdc CC-4: 3.55 Vdc CC-5: 4.60 Vdc
25	TXD	OUT	OHB ⇨ CHU
26	HD	OUT	0 to 5 V, positive
27	HD (G)		GND for HD
28	S.DT	IN	Serial data input
29	S.CK	IN	Clock input for serial data

1-3. Removing the Filter Disk Unit and Boards

Prior to the performance of the following activities, remove the OHB from the camera.
As for how to remove, refer to the installation manual supplied with the OHB.

1. Removing the filter disk unit

(1) Loosen the two screws (a) and pull out the filter disk unit.
(2) Disconnect the connector from the servo driver board.

2. Removing the case

Remove the seven screws (c).

3. Removing the SH-55 board

Remove the three screws (d).

4. Removing the TG-194 board

Remove the three screws (e).

5. Removing the VA-157 board

Remove the screw (f) and disconnect the four connectors (CN1, CN6, CN7 and CN8).

6. Removing the TG-193 board

(1) Remove the two supports and two screws (g).
(2) Disconnect the two connectors (CN1 and CN9).

7. Removing the DR-258 board

(1) Remove the four screws (b) to remove the front panel.
(2) Remove the two screws (h) securing the connector plate.
(3) Disconnect the flexible card wires (CN3, CN4 and CN5).
(4) Remove the support and screw (k).

Note

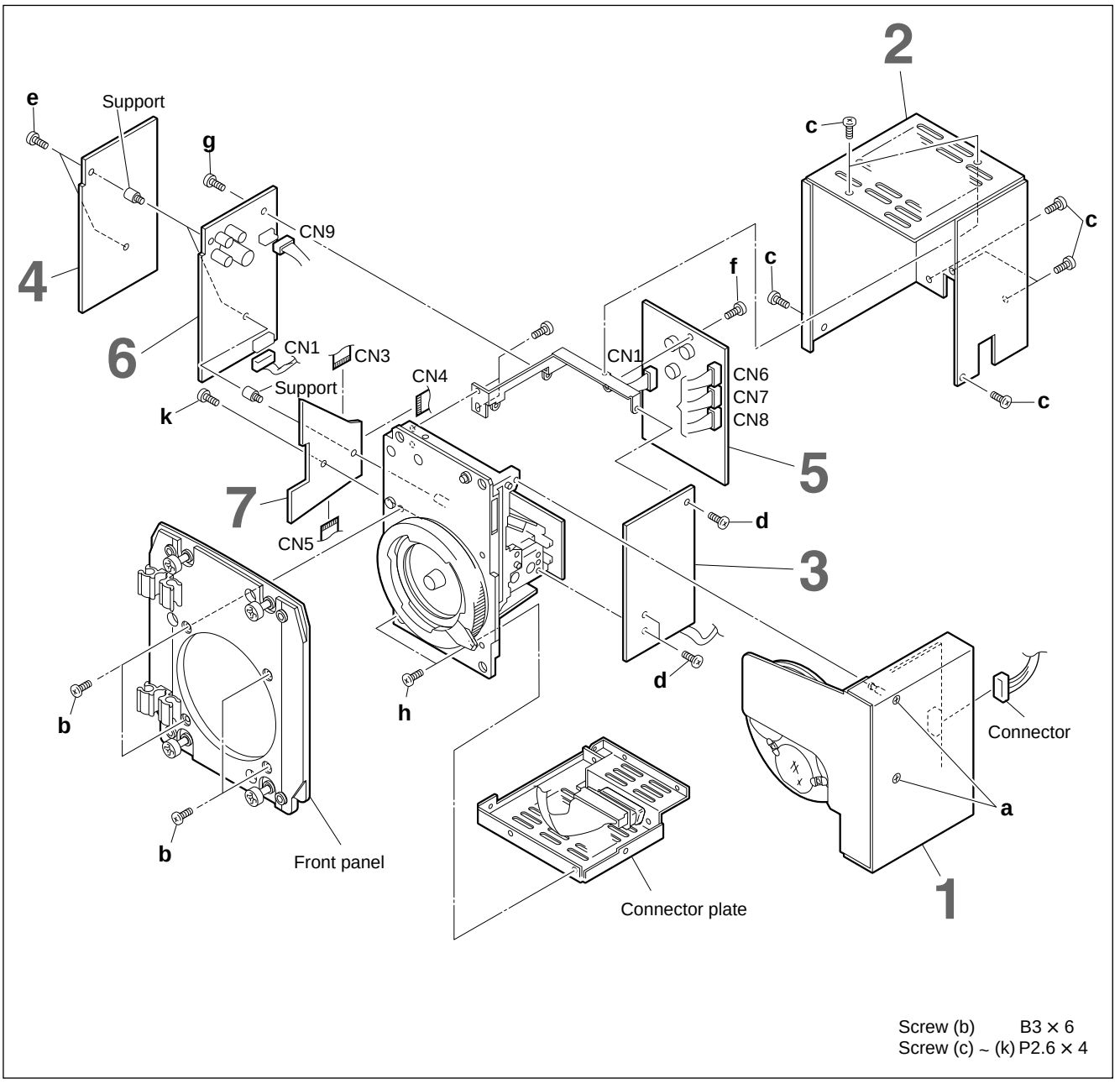
Refer to Section 1-5 before disconnecting the flexible card wire.

8. Assembling

Assemble the unit in the reverse order of steps 1 to 7.

Note

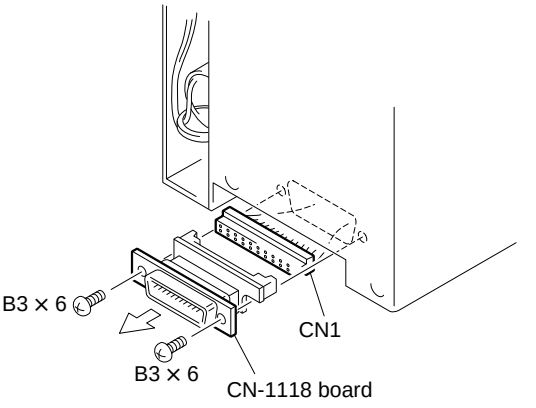
Prior to assembling, connect the VA-157 and TG-193 boards. It makes assembling easy.


2
e
Support
g
c
c
4
CN9
f
c
6
CN1
CN3
CN4
CN1
CN6
CN7
CN8
Support
k
c
5
7
CN5
d
3
b
h
d
Connector
a
b
Front panel
Connector plate
1
Screw (b) B3 × 6
Screw (c) ~ (k) P2.6 × 4

1-4. Replacing the 29P Connector

When replacing the 29P connector, replace the CN-1118 board including the 29P connector with a new one.

1. Remove the two screws and pull out the 29P connector. Disconnect CN1 connector.
2. Install a new board in the reverse order of removal.



1-5. Disconnecting/Connecting Flexible Card Wire

The flexible card wires are used between DR and PA boards.Take care not to break the flexible card wire. This shorten the wire life.

Disconnecting

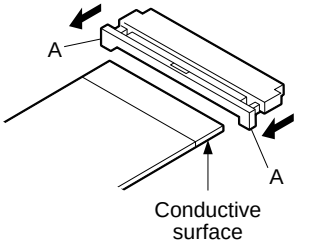
1. Turn off the power.
2. Slide portions A in the direction of the arrow to unlock and pull out the flexible card wire.

Connecting

Note

- Be careful not to insert the flexible card wire obliquely.
- Check that the conductive surface of the flexible card wire is not soiled with dust.

1. Slide portions A in the direction of the arrow and insert the flexible cared wire as far as it will go with the conductive surface down.
2. Slide portions A in the reverse direction to lock.



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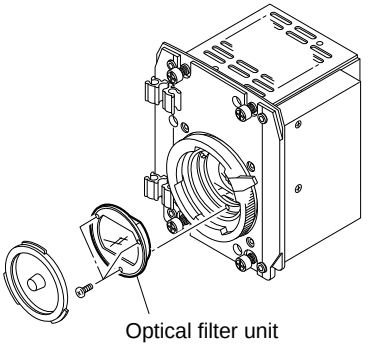
1-6. Recommended Replacement Part

Optical filter unit used in the unit is a recommended replacement part. It may be turned cloudy with the lapse of time.
If using a cloudy filter, the performance of camera will not be delivered. Replace it according to necessary.

Note

It is recommended to replace the optical filter unit in a clean room.

Description	Sony Part No.	Model
FILTER UNIT, OPTICAL	1-475-771-11	OHB-750A/730 (UCJ)
FILTER UNIT, OPTICAL	1-475-772-11	OHB-750WSA/730WS (UCJ)
FILTER UNIT, OPTICAL	1-475-773-11	OHB-750AP/730P (CE)
FILTER UNIT, OPTICAL	1-475-774-11	OHB-750WSAP/730WSP (CE)



1-7. Replacement Parts for BKP-7091

Four kinds of TG-193 board are available as a replacement mounted circuit board for the OHB-750/750P/750W/750WP upgraded by the BKP-7901. Parts configuration for each TG-193 board differs depending on the type of OHB. To replace this board for the upgraded OHB, see the following list.
For other replacement parts, see the OHB-750/750P/750W/750WP maintenance manuals together with this manual.

Model	Description	Sony Part No.
OHB-750 (UCJ)	MOUNTED CIRCUIT BOARD, TG-193A	A-8317-777-A
OHB-750P (EK)	MOUNTED CIRCUIT BOARD, TG-193P	A-8317-786-A
OHB-750W (UCJ)	MOUNTED CIRCUIT BOARD, TG-193WA	A-8317-797-A
OHB-750WP (EK)	MOUNTED CIRCUIT BOARD, TG-193WP	A-8317-802-A

1-8. Internal Switch Settings for the DR-258 Board

SW1 to SW3 on the DR-258 board are factory-use switches. Their factory-set positions differ depending on the unit. Never change the switch settings from the factory-set positions.
When replacing any of these switches, or replacing the DR-258 board itself, note the settings for the former switches and establish the same setting as before for a new switch.

1-9. Adjustment Needed After Replacing the Board/Part

The following show the adjustment (or setting) items needed after replacing the mounted circuit board or the part on the board. If no item is listed, no adjustment is needed.

Board	Adjustment/Setting	Remarks
DR-258	Setting the switches (SW1 to SW3)	Needed when replacing the board/part (Refer to Section 1-8)
PA*	APR Adjustment (Section 2-4)	Needed when replacing the part
SH-55/55A	———	
TG-193	V Substrate Voltage Adjustment (Section 2-2)	Needed when replacing the board/part
TG-194	RPN Correction Adjustment (Section 2-3)	Needed when replacing the board/part
VA-157	VA Gain Adjustment (Section 2-7)	Needed when replacing the board
RC-68	———	
Servo Driver	Filter Positioning Adjustment (Section 2-8)	Needed when replacing the board

*PA-174/175/176/222/222A/222B/223/223A/223B/224/224A/224B

1-10. Description on CCD Block Number

Every CCD unit has its own ID number called CCD block number. It shows the CCD block type and serial number for the CCD block.
The CCD block number label is put in the CCD unit.

Ex.) HRAxxxxx
- HRA: CCD block type
- xxxxx: Serial number for CCD block

1-11. Replacing the CCD Unit

When replacing the CCD unit, order the applicable unit through a sales channel as shown below.

Model	Replacement CCD unit	CCD block type*1
OHB-730 (UCJ)	BKP-C730 (UCJ)	HRA
OHB-730P (CE)	BKP-C730P (CE)	HSA
OHB-750A (UCJ)	BKP-C750 (UCJ)	HLA
OHB-750AP (CE)	BKP-C750P (CE)	HMA
OHB-730WS (UCJ)	BKP-C730W (UCJ)	HTA
OHB-730WSP (CE)	BKP-C730WP (CE)	HUA
OHB-750WSA (J)	BKP-C750W (UCJ)	HNA
OHB-750WSAP (CE)	BKP-C750WP (CE)	HOA

∗1: For detail on CCD block type, refer to Section 1-10.

1. Perform steps 1 and 2 in Section 1-3 “Removing the Filter Disk Unit and Boards” to remove the filter disk unit and case.
2. Perform step 7 (1) in Section 1-3 “Removing the Filter Disk Unit and Boards” to remove the front panel.
3. Attach the filter disk unit, case and front panel that were removed in steps 1 and 2 to the a new CCD unit. Install in the reverse order of removal.

Section 2
Electrical Alignment

OHB electrical alignment requires the camera. The OHB can be connected to various kinds of camera as shown below. Depending on which camera is used, necessaries and adjustment methods differ.
This section describes adjustment procedures for each camera.

2-1. Preparation

2-1-1. Equipment Required

Measuring Equipment

Equipment	Type	Remarks
Oscilloscope	Tektronix 2465B or equivalent	Band width; 300 MHz or more
Waveform monitor	Tektronix 1780R or equivalent Tektronix 1781R or equivalent	for NTSC for PAL
Color monitor	Sony BVM series	
Monochrome monitor		Horizontal resolution; 900 TV lines or more
Digital voltmeter		

Peripheral Equipment

Equipment	Type	Remarks
Color video camera	BVP-900/900P, BVP-950/950P BVP-700/700P, BVP-750/750P	
Camera adaptor	CA-570/570P, CA-550/550P	Necessary when using the BVP-950/950P
Master setup unit	MSU-700	
Camera control unit	CCU-700A/700AP	
Viewfinder	BVF-7700/7700CE, BVF-77/77CE	For BVP-900/900P/700/700P
	BVF-10/10CE, BVF-C10W, BVF-20W/20WCE	For BVP-950/950P

Tools required

Description	Sony Part No.	Remarks
OHB extension harness	J-6394-290-A	To extend the OHB from the camera
Extension board EX-439	A-8314-124-A	For BVP-900/900P/700/700P
Extension board EX-464	J-6395-040-A	For BVP-950/950P
Extension board EX-458	A-8265-739-A	For BVP-750/750P
Grayscale chart (reflective) or Pattern box PTB-500 Grayscale chart (transparent)	 J-6029-140-B J-6026-130-B	Commercially available (Refer to Section 2-1-5.) Power supply; AC 90 to 240 V
ROM for adjustment	J-6470-480-A	

2-1-2. Presetting Compensation Data

Before beginning adjustment, preset all compensation data output from the microcomputer. To preset proceed as follows. By presetting the data, the microcomputer will output the center value of each data. If you adjust each item without presetting, it cannot be regarded as completion of adjustment.

Presetting

Perform the preset operation on the camera using the viewfinder displays.

Note

- Make sure the no display appears on the viewfinder before beginning presetting.
- Presetting method differs depending on which camera is used.

BVP-900/900P

Use the DISPLAY switch, MENU SELECT control and ENTER/CANCEL switch on the camera rear panel.

1. Set the DISPLAY switch to OFF. While holding the ENTER/CANCEL switch up in the ENTER position, slide the DISPLAY switch downward to MENU.
   The Maintenance menu appears in the viewfinder.
2. Set the arrow (⇨) to the “Reference Store” line by turning the MENU SELECT control, and slide the ENTER/CANCEL switch to ENTER once.
   The Reference Store menu now appears.
3. Turn the MENU SELECT control and set the arrow to the “All Preset” line and slide the ENTER/CANCEL switch to ENTER once.
   When presetting is completed, a message “Completed” is displayed.
4. Set the DISPLAY switch to OFF.

BVP-950/950P

Use the DISPLAY switch, MIC 1 LEVEL control and ENTER/CANCEL switch inside the switch box of the camera.

1. Set the DISPLAY switch to OFF. While holding the ENTER/CANCEL switch up in the ENTER position, slide the DISPLAY switch downward to MENU.
   The Maintenance menu appears in the viewfinder.
2. Set the arrow (⇨) to the “Reference Store” line by turning the MIC 1 LEVEL control, and slide the ENTER/CANCEL switch upwards to ENTER once.
   The Reference Store menu now appears.
3. Turn the MIC 1 LEVEL control and set the arrow to the “All Preset” line and slide the ENTER/CANCEL switch upwards to ENTER once.
   When presetting is completed, a message “Completed” is displayed.
4. Set the DISPLAY switch to OFF.

BVP-700/700P

Use the DISPLAY switch, VF DETAIL control and CURSOR ON button on the camera rear panel.

1. While holding the CURSOR ON button down, slide the DISPLAY switch upwards from ON to PAGE.
   The Maintenance menu appears in the viewfinder.
2. Set the arrow (⇨) to the “Reference Store” line by turning the VF DETAIL control, and press the CURSOR ON button.
   The Reference Store menu now appears.
3. Turn the VF DETAIL control and set the arrow to the “All Preset” line and press the CURSOR ON button.
   When presetting is completed, a message “Completed” is displayed.
4. Slide the DISPLAY switch downward to OFF.

BVP-750/750P

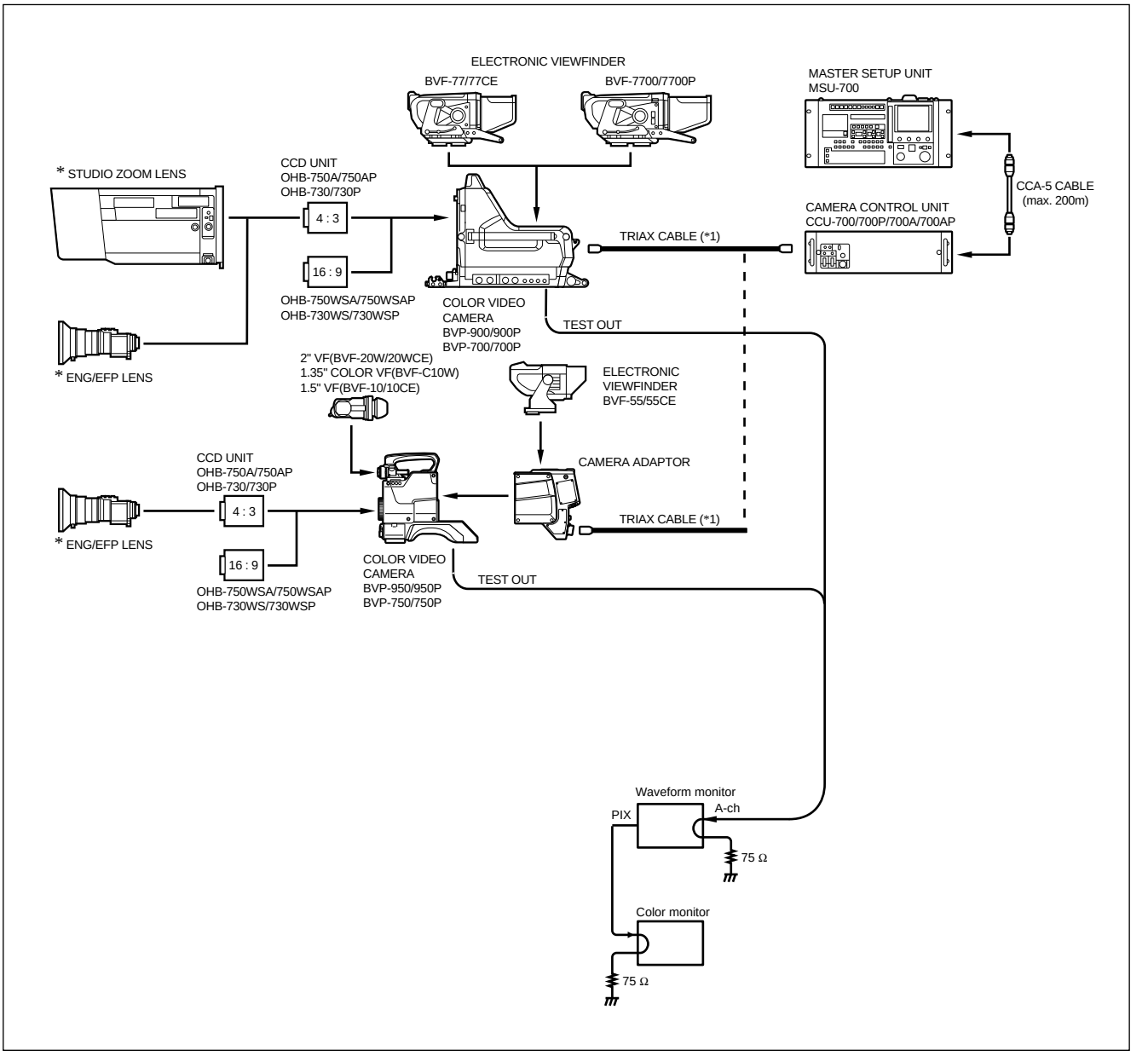
Use the DISP switch, SEL switch and UP/DOWN switch inside the switch box of the camera.

1. While holding the UP/DOWN button up in the UP position, slide the DISP switch upwards from ON to PAGE.
   The Maintenance menu appears in the viewfinder.
2. Set the arrow (⇨) to the “Reference Store” line with the SEL switch, and press the UP/DOWN button.
   The Reference Store menu now appears.
3. Set the arrow to the “All Preset” line with the SEL switch and press the UP/DOWN switch.
   When presetting is completed, a message “Completed” is displayed.
4. Slide the DISP switch downward to OFF.

2-1-3. Notes on Adjustment

- Alignment for camera, camera adaptor and viewfinder shall be completed.
- Measuring equipment shall be calibrated.
- There is a variety of OHB-730/750A series. In this section, they are represented as “OHB” simply for convenience in writing.
- The following adjustments require a lens. For all other adjustments, no lens is required.
  2-2. V Substrate Adjustment
  2-7. VA Gain Adjustment
- The following adjustments can be performed in the state in which the OHB is installed in the camera.
  2-4. APR Adjustment
  2-7. VA Gain Adjustment
  2-8. Filter Positioning Adjustment
- When performing adjustments other than Sections 2-4, 2-7 and 2-8, remove the case from the OHB and extend the OHB from the camera with an OHB extension harness.
  As for how to remove the case, refer to Section 1-3, Step 2.
- Paste a black colored velvets (around 3 × 3 cm) to both sides of the full white portion in the center of a transparent grayscale chart.
  (For more details, contact your local Sony Sale Office/Service Center.)

2-1-4. Connection



* Use for V substrate voltage adjustment and VA gain adjustment

2-1-5. Maintaining the Grayscale Chart

For the VA gain adjustment, using an 89.9 %-reflective grayscale chart is preferable.
If a reflective chart is not available, use a well-maintained pattern box and a transparent grayscale chart for adjustment.
Before beginning adjustment, set the illumination of the light source (or the luminous intensity on the chart surface) properly proceeding as follows and set the color temperature to 3200 K exactly by adjusting light.

Information on the reflective grayscale chart

Recommended chart

The reflective grayscale chart is commercially available.

Recommended chart: Reflective grayscale chart (with a special case)
MURAKAMI COLOR RESEARCH LABORATORY GS-3
or equivalent

Supplier: MURAKAMI COLOR RESEARCH LABORATORY
Address: 3-11-3, Kachidoki, Chuo-ku, Tokyo, JAPAN
Postcode 104-0054
Phone: 81-3-3532-3011
Fax: 81-3-3532-2056

Handling precautions

- Do not touch the chart's surface.
- Do not subject the surface to dirt, scratches or prolonged exposure to sunlight.
- Protect the chart from excess moisture and harmful gas.
- Avoid resting articles against the case.
- Open the case and dry the chart more an hour for a month in no use long period.

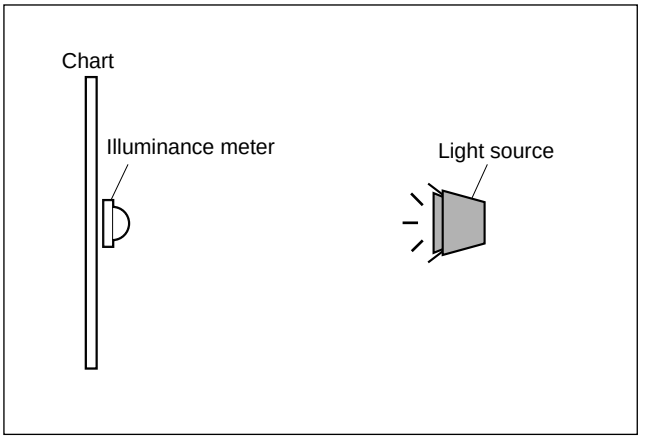
Replacement period when the chart is used as the reference

The reflective grayscale chart should be replaced every two years if it used as the reference. Because the chart deteriorates with time and proper adjustment cannot be achieved.
Replacement period varies according to storage conditions of the chart.

Setting illumination (when the reflective chart is used)

Equipment: Illuminance meter (Calibrated)

1. Turn on the light source and warm up for about 30 minutes.
2. Place the illuminance meter on the chart surface. Adjust the position and angle of the light source so that the whole surface of the chart is evenly 2000 lx.
   Note
   Light the chart from almost the same direction and height as the camera to shoot the chart.



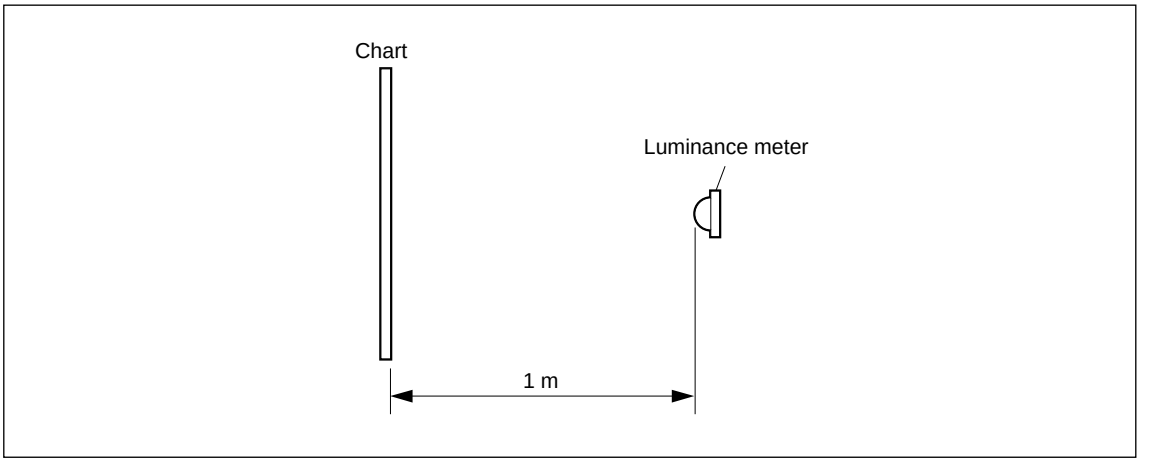
Setting luminous intensity (when the transparent chart is used)

Equipment: Luminance meter (Minolta LS-110 or equivalent. Calibrated.)

1. Light the pattern box and warm up for about 30 minutes.
2. Place the pattern box where the chart is not exposed to light, such as a darkroom.
   (Or cover the pattern box with a cover whose inside is painted in black.)
3. Place the luminance meter facing straight to the chart at a distance of 1 m from it.
4. Adjust the luminance control of the pattern box so that the white portion in the center of the chart is 573 ± 6 cd/m^2.

Note

This corresponds to the luminous intensity on the 89.9 %-reflective chart at 2000 lx.



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2-2. V Substrate Adjustment

2-2-1. V Substrate Adjustment (Coarse)

Equipment: Digital voltmeter

Notes

- This adjustment is required only when replacing the TG-193 board itself, or replacing adjustment controls ⊘RV1 through ⊘RV3 on the TG-193 board.
- After this adjustment is completed, proceed to Section 2-2-2 “V Substrate Adjustment (Fine)”.

Preparation

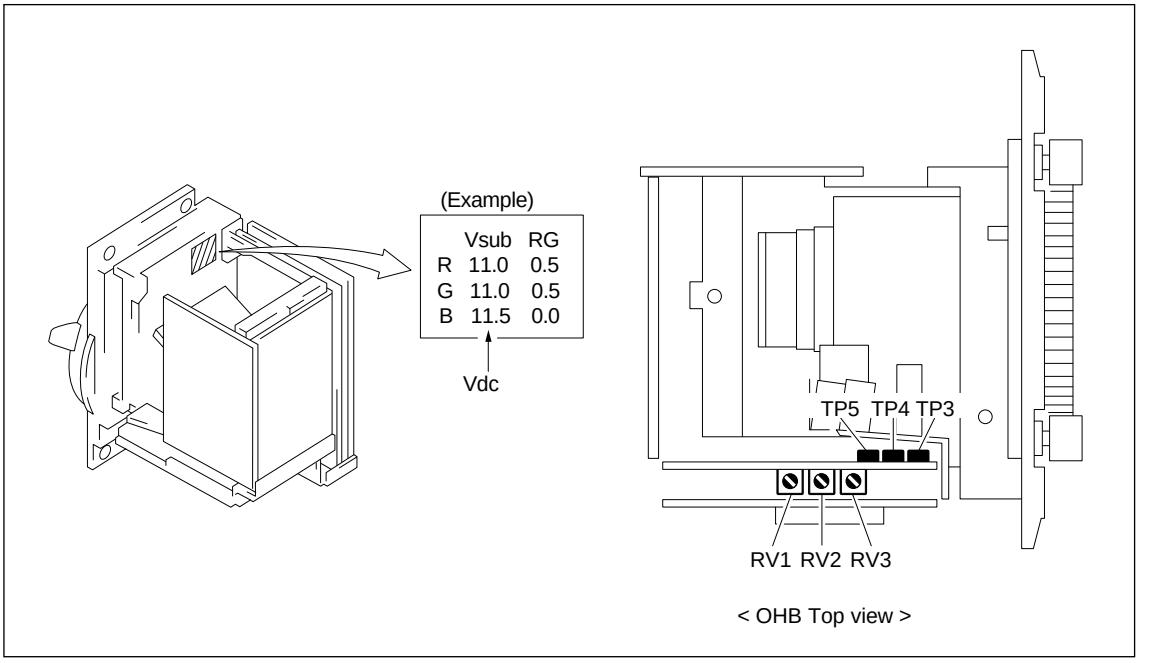
- Settings for MSU-700 ECS/SHUTTER control block
  ECS button, ON button ⇨ OFF (unlit)

Adjustment Procedures

Adjust G-ch, R-ch, and B-ch respectively.

	Test Point/TG-193 board	Adj.Point
G-ch	TP4 (GND:chassis)	⊘RV2
R-ch	TP5 (GND:chassis)	⊘RV1
B-ch	TP3 (GND:chassis)	⊘RV3

Specification: V-sub voltage ±0.2 V
(Check the V-sub voltage for each channel by the voltage marking on the back of the OHB front panel.)



2-2-2. V Substrate Adjustment (Fine)

Equipment: Oscilloscope
Object: Pattern box

Notes

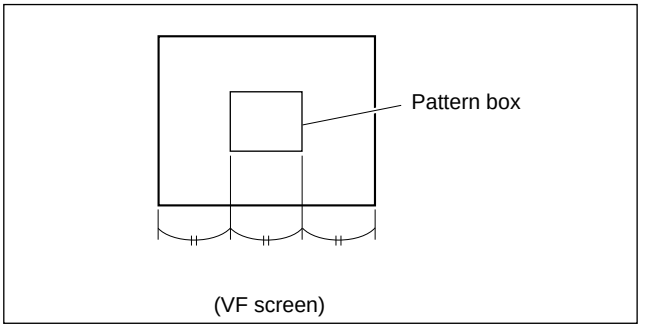
- This adjustment is required only when replacing the TG-193 board, or replacing adjustment controls ⊘RV1 through ⊘RV3 on the TG-193 board.
- Perform this adjustment after finishing Section 2-2-1 “V Substrate Adjustment (Coarse)”.

Preparations

- Setting for MSU-700 MASTER GAIN control block
  Master gain ⇨ 0 (dB)
- Settings for MSU-700 ECS/SHUTTER control block
  ECS button, ON button ⇨ OFF (unlit)

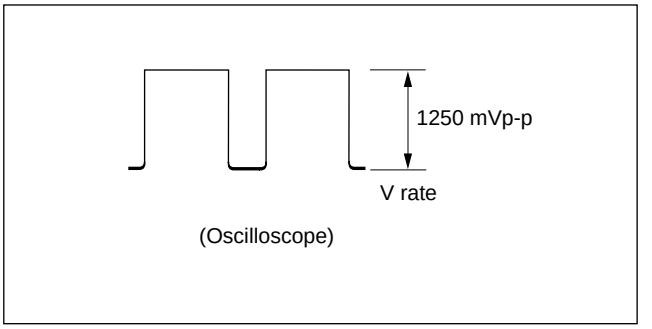
Adjustment Procedures

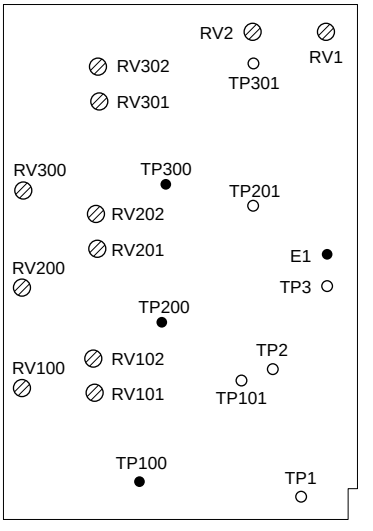
1. Open the lens iris. Adjust the zoom control so that the pattern box is shot in the following condition.



2. Check that the video level at the following point on the VA-157 board is 1250 mV p-p or more.

	Test Point/VA-157 board
G-ch	TP200 (GND:E1)
R-ch	TP100 (GND:E1)
B-ch	TP300 (GND:E1)





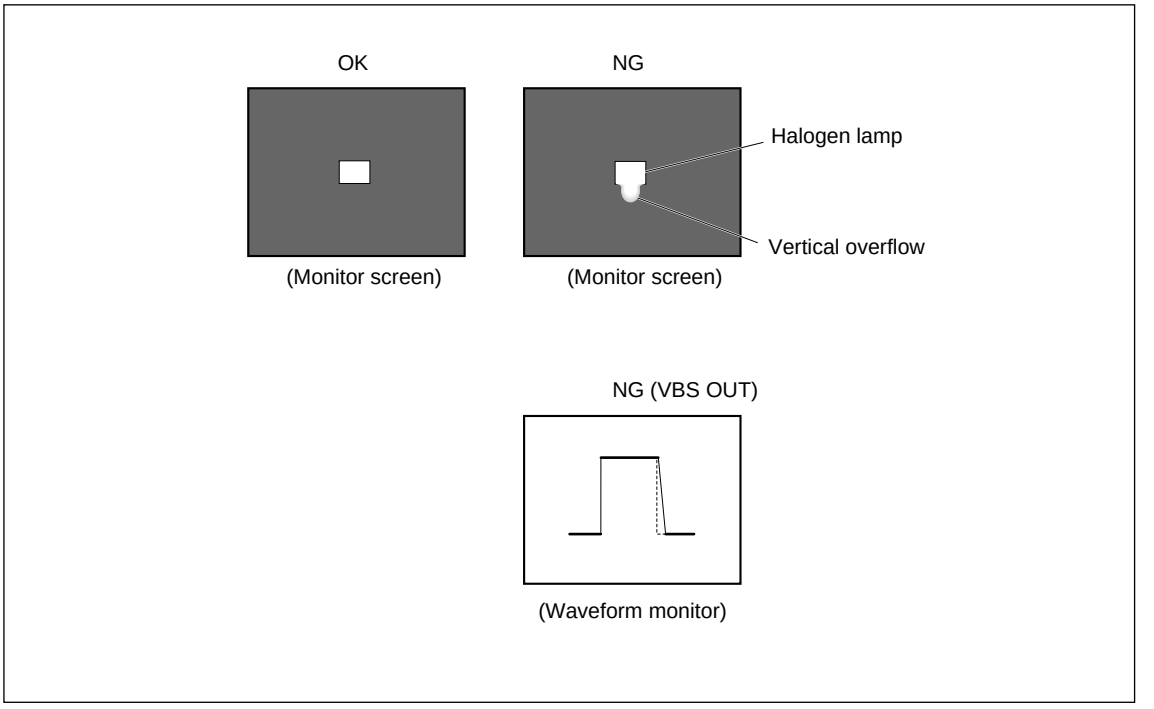
VA-157 (B side)

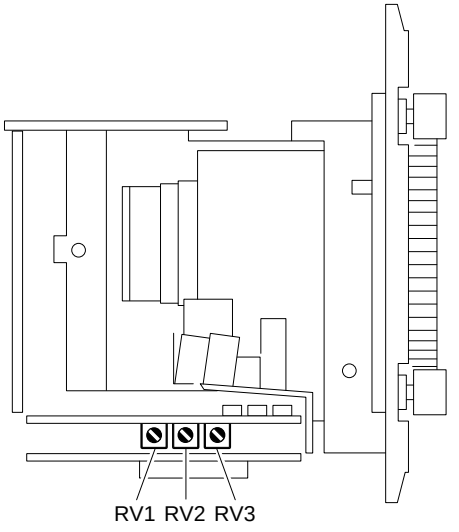
3. Adjust for the channel of which specification is not met.

	Test Point/VA-157 board	Adj.Point/TG-193 board	Specification
G-ch	TP200 (GND:E1)	⊘RV2	1250 mVp-p
R-ch	TP100 (GND:E1)	⊘RV1	1250 mVp-p
B-ch	TP300 (GND:E1)	⊘RV3	1250 mVp-p

4. Connect a color monitor to the VBS OUT connector on the CCU camera control unit.

5. Shoot the high-intensity object such as a halogen lamp. Check that no vertical overflow phenomenon occurs beneath the light source.
   If occurs, make a fine adjustment for ⊘RV which was turned in step 3 until the phenomenon disappears.





< OHB Top view >

2-3. RPN Correction Adjustment

Test Point: TEST OUT connector (camera)

Notes

- This adjustment is required when replacing the TG-194 board itself, or replacing adjustment controls ⊘RV1 or ⊘RV2 on the TG-194 board.
- Also required when installing the camera upgrade board BKP-7091 in the OHB-750/750P/750W/750WP.

Preparations

- Remove the case from the OHB referring to Section 1-3 and then install the OHB in the camera. Warm up the OHB for two hours or more in the ambient temperature between room temperature and 45˚C. Then detach the OHB again from the camera and extend it with an OHB extension harness.

  Note

  Be sure that warming up is carried out at the highest possible temperature in the specified range. Perform this adjustment in such a short time that the temperature in the OHB does not drop.

- Connect a monochrome monitor to the TEST OUT connector on the camera.
- Cap the lens mount of the OHB with a mount cap.
- Setting for MSU-700 MASTER GAIN control block
  Master gain ⇨ 18 (dB)
- Settings for MSU-700 ECS/SHUTTER control block
  ECS button, ON button ⇨ OFF (unlit)

Adjustment Procedures

1. Settings for camera switches:
   - [BVP-900/700] G button (rear panel) ⇨ ON
     R/B buttons (rear panel) ⇨ OFF
   - [BVP-950] Select G signal by pushing down the TEST OUT switch (side panel) from the RGB position towards the SEL position.
     (You can check which signal is selected on the viewfinder screen.)
   - [BVP-750] ENC/RGB switch (side panel) ⇨ RGB
     R/G/B switch (side panel) ⇨ G

2. Press switch S2 on the TG-194 board to check the presence or absence of RPN-corrected pixel in the G channel.

   Note

   RPN-corrected pixel, if present, will become whitish as compared to surrounding pixels when the switch is pressed.

3. In the R channel, check the presence or absence of RPN-corrected point in the same manner.
   Settings for camera switches:
   - [BVP-900/700] R button (rear panel) ⇨ ON
     G/B buttons (rear panel) ⇨ OFF
   - [BVP-950] Select R signal by pushing down the TEST OUT switch (side panel) from the RGB position towards the SEL position.
   - [BVP-750] R/G/B switch (side panel) ⇨ R

4. In the B channel, check the presence or absence of RPN-corrected point in the same manner.
   Settings for camera switches:
   [BVP-900/700] B button (rear panel) ⇨ ON
   R/G buttons (rear panel) ⇨ OFF
   [BVP-950] Select B signal by pushing down the TEST OUT switch (side panel) from the RGB position towards the SEL position.
   [BVP-750] R/G/B switch (side panel) ⇨ B

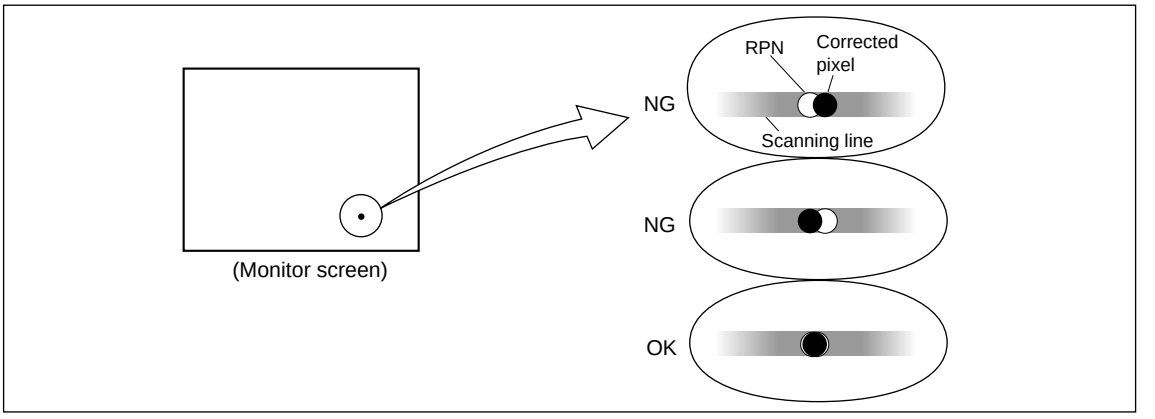
5. Perform the following adjustments observing an RPN-corrected pixel. If two or more pixels which needs to be corrected are present, perform the adjustments for one of them in the corresponding channel.

   Adj.Point: ⊘RV1/TG-194 board
   Specification: Minimize the level difference between the corrected pixel and surrounding pixels.

   Adj.Point: ⊘RV2/TG-194 board
   Specification: Minimize phase error on the corrected pixel.

   Note

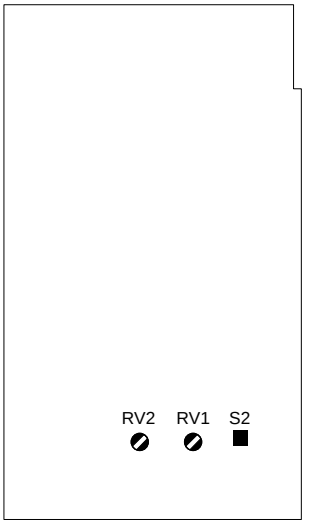
   If no RPN-corrected pixel is monitored in all channels, set ⊘RV1 and ⊘RV2 to their mechanical center.



6. Ensure that all the pixels are corrected properly in the other channels.

Setting After the Completion

- R/G/B buttons (BVP-900/700 rear panel) ⇨ OFF
  TEST OUT switch (BVP-950 side panel) ⇨ ENC
  ENC/RGB switch (BVP-750 side panel) ⇨ ENC



TG-194 (B side)

2-4. APR Adjustment

Test Point: TEST OUT connector (camera)

Note

- This adjustment is required when replacing adjustment controls ⊘CV1 or ⊘RV1 on the PA board.

Preparations

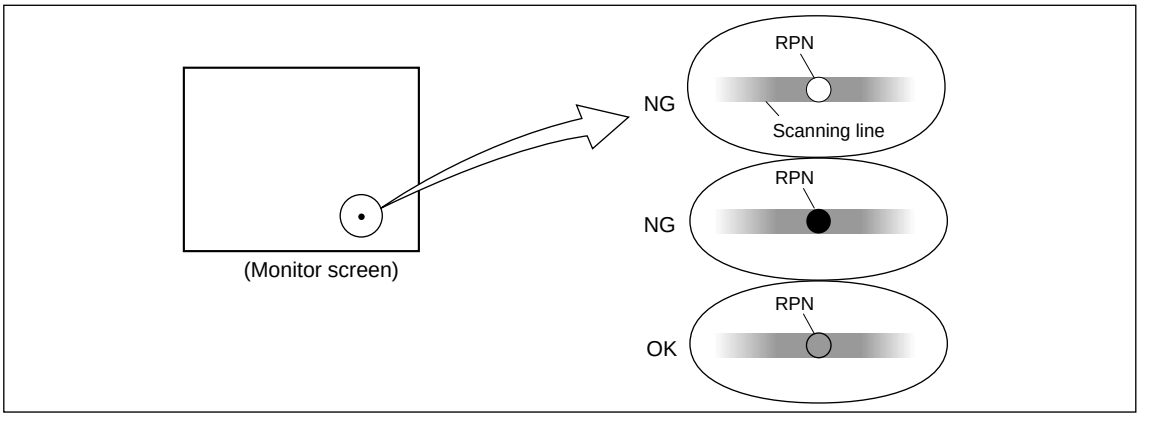
- Replace IC12/TG-194 board with the ROM for adjustment.
- Remove the case and filter disk unit from the OHB referring to Section 1-3 and then install the OHB in the camera.
  Warm up the OHB for thirty minutes or more in the ambient temperature.
- Connect a monochrome monitor to the TEST OUT connector on the camera.
- Cap the lens mount of the OHB with a mount cap.
- Setting for MSU-700 MASTER GAIN control block
  Master gain ⇨ 18 (dB)
- Settings for MSU-700 ECS/SHUTTER control block
  ECS button, ON button ⇨ OFF (unlit)

Adjustment Procedures

1. Settings for camera switches:
   [BVP-900/700] G button (rear panel) ⇨ ON
   R/B buttons (rear panel) ⇨ OFF
   [BVP-950] Select G signal by pushing down the TEST OUT switch (side panel) from the RGB position towards the SEL position.
   (You can check which signal is selected on the viewfinder screen.)
   [BVP-750] ENC/RGB switch (side panel) ⇨ RGB
   R/G/B switch (side panel) ⇨ G

2. In the G channel, adjust the APR as shown in the figure.
   Adj.Point: ⊘CV1/PA-175A (or PA-223/223A/223B) board
   Specification: Minimize the level difference between the RPN and surrounding pixels.

3. If the above adjustment can not be completed, make a fine adjustment using the following control.
   Adj.Point: ⊘RV1/PA-175A (or PA-223/223A/223B) board



4. In the R channel, adjust the APR in the same manner.
   Settings for camera switches:
   [BVP-900/700] R button (rear panel) ⇨ ON
   G/B buttons (rear panel) ⇨ OFF
   [BVP-950] Select R signal by pushing down the TEST OUT switch (side panel) from the RGB position towards the SEL position.
   [BVP-750] R/G/B switch (side panel) ⇨ R

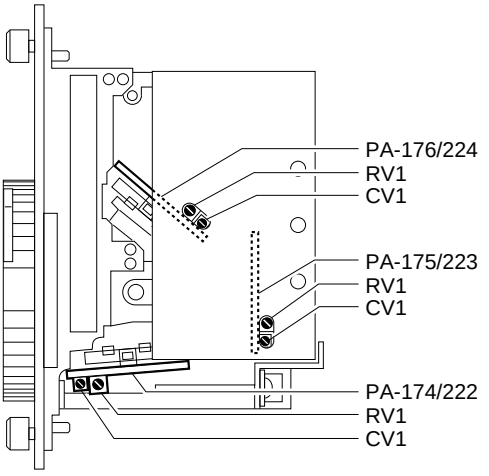
   Adj.Points: ⊘CV1/PA-174A (or PA-222/222A/222B) board
   ⊘RV1/PA-174A (or PA-222/222A/222B) board

5. In the B channel, adjust the APR in the same manner.
   Settings for camera switches:
   [BVP-900/700] B button (rear panel) ⇨ ON
   R/G buttons (rear panel) ⇨ OFF
   [BVP-950] Select B signal by pushing down the TEST OUT switch (side panel) from the RGB position towards the SEL position.
   [BVP-750] R/G/B switch (side panel) ⇨ B

   Adj.Points: ⊘CV1/PA-176A (or PA-224/224A/224B) board
   ⊘RV1/PA-176A (or PA-224/224A/224B) board

Setting After the Completion

- Remove the ROM for adjustment and return IC12/TG-194 board to its normal position.
- R/G/B buttons (BVP-900/700 rear panel) ⇨ OFF
  TEST OUT switch (BVP-950 side panel) ⇨ ENC
  ENC/RGB switch (BVP-750 side panel) ⇨ ENC



2-5. OFFSET Adjustment

Equipment: Waveform monitor
Test Point: TEST OUT connector (camera)

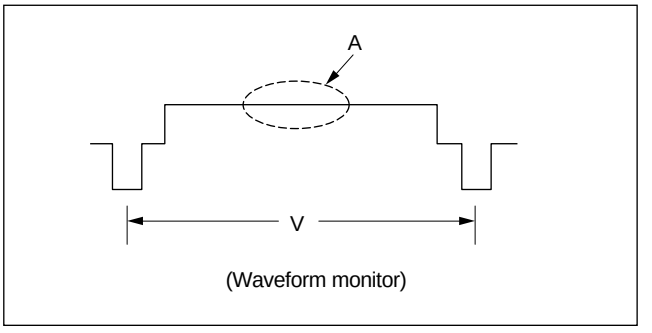
Preparations

- Cap the lens mount of the OHB with a mount cap.
- Setting for MSU-700 MASTER GAIN control block
  Master gain ⇨ 0
- Settings for waveform monitor
  DISPLAY:2 FIELD(V rate), VOLTS FULL SCALE range: 0.2, LUM mode

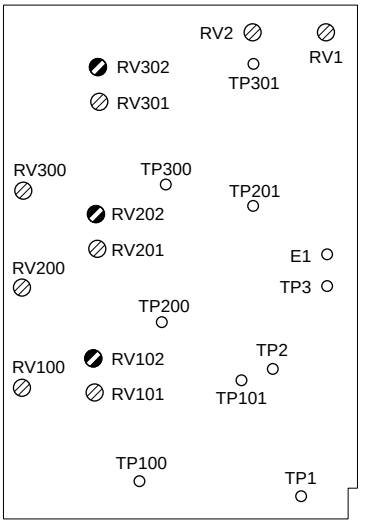
Adjustment Procedures

1. G OFFSET adjustment
   Settings for camera switches:
   [BVP-900/700] G button (rear panel) ⇨ ON
   R/B buttons (rear panel) ⇨ OFF
   [BVP-950] Select G signal by pushing down the TEST OUT switch (side panel) from the RGB position towards the SEL position.
   (You can check which signal is selected on the viewfinder screen.)
   [BVP-750] ENC/RGB switch (side panel) ⇨ RGB
   R/G/B switch (side panel) ⇨ G
   Operating on MSU menu:
   PAINT button(MSU operation block) ⇨ ON (lit)
   [Selecting by touch panel] (Page 1/3) ⇨ White

   Adj.Point: ⊘RV202/VA-157 board
   Specification: The level at portion A does not change even when the G control knob on the MSU operation block turned fully clockwise and fully counterclockwise.



(Waveform monitor)



VA-157 (B side)

2. R OFFSET adjustment

Settings for camera switches:

[BVP-900/700] R button (rear panel) ⇨ ON
G/B buttons (rear panel) ⇨ OFF

[BVP-950] Select R signal by pushing down the TEST OUT switch (side panel) from the RGB position towards the SEL position.

[BVP-750] R/G/B switch (side panel) ⇨ R

Operating on MSU menu:

PAINT button (MSU operation block) ⇨ ON (lit)

[Selecting by touch panel] (Page 1/3) ⇨ White

Adj.Point: ⊘RV102/VA-157 board

Specification: The level at portion A does not change even when the R control knob on the MSU operation block turned fully clockwise and fully counterclockwise.

3. B OFFSET adjustment

Settings for camera switches:

[BVP-900/700] B button (rear panel) ⇨ ON
R/G buttons (rear panel) ⇨ OFF

[BVP-950] Select B signal by pushing down the TEST OUT switch (side panel) from the RGB position towards the SEL position.

[BVP-750] R/G/B switch (side panel) ⇨ B

Operating on MSU menu:

PAINT button(MSU operation block) ⇨ ON (lit)

[Selecting by touch panel] (Page 1/3) ⇨ White

Adj.Point: ⊘RV302/VA-157 board

Specification: The level at portion A does not change even when the B control knob on the MSU operation block turned fully clockwise and fully counterclockwise.

Setting After the Completion

- Press Clear on the MSU touch panel to set it to inverse video. Set the white levels for R, G, and B channel to all “0” using the MSU touch panel.
- R/G/B buttons (BVP-900/700 rear panel) ⇨ OFF
  TEST OUT switch (BVP-950 side panel) ⇨ ENC
  ENC/RGB switch (BVP-750 side panel) ⇨ ENC

2-6. TEST Signal Level Adjustment

Equipment: Oscilloscope

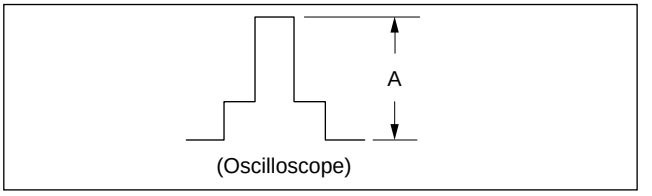
Preparation

- Setting for MSU-700 MASTER GAIN control block
  Master gain ⇨ 0

Adjustment Procedures

1. TEST 2 button (MSU-700) ⇨ ON (lit)

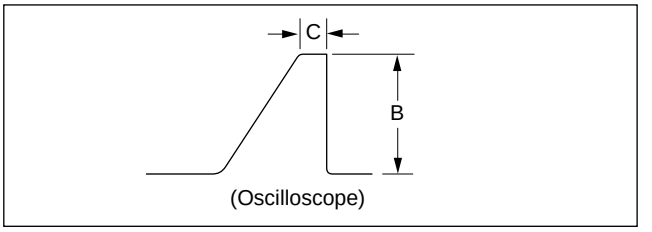
2. Test Point: TP201 (GND:chassis)/VA-157 board
   Adj.Point: ⊘RV201/VA-157 board
   Specification: A = 500 ±5 mV



3. TEST 2 button (MSU-700) ⇨ OFF (unlit)
   TEST 1 button (MSU-700) ⇨ ON (lit)

4. Adj.Point: ⊘RV1/VA-157 board
   Specification: B = 500 ±5 mV

5. Adj.Point: ⊘RV2/VA-157 board
   Specification: C = 4.0 ±0.2 µs

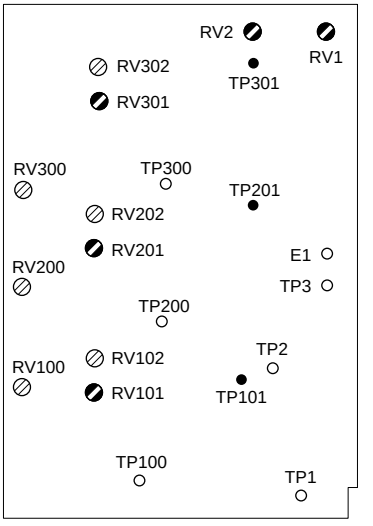


6. R-ch adjustment
   Test Point: TP101 (GND:chassis)/VA-157 board
   Adj.Point: ⊘RV101/VA-157 board
   Specification: B = 500 ±5 mV

7. B-ch adjustment
   Test Point: TP301 (GND:chassis)/VA-157 board
   Adj.Point: ⊘RV301/VA-157 board
   Specification: B = 500 ±5 mV

Setting After the Completion

- TEST 1 button (MSU-700) ⇨ OFF (unlit)



VA-157 (B side)

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2-7. VA Gain Adjustment

Equipment: Waveform monitor
Test Point: TEST OUT connector (camera)
Object: Grayscale chart

Note

- Make sure that presetting all the compensation data is completed before beginning adjustment. (Refer to Section 2-1-2.)

Preparations

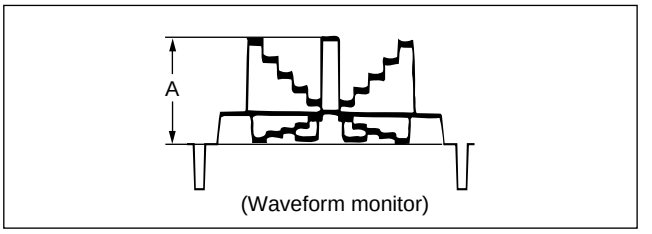
- Remove the case from the OHB and then install the OHB in the camera. And attach the lens to the OHB.
- Connect the waveform monitor to the TEST OUT connector.
- Setting for MSU-700 MASTER GAIN control block
  Master gain ⇨ 0
- Setting for MSU-700 IRIS control block
  Iris ⇨ F8.0
- GAMMA OFF button (MSU-700) ⇨ OFF (lit)
- KNEE OFF button (MSU-700) ⇨ OFF (lit)
- Shoot the grayscale chart so that its frame is aligned with the underscanned monitor frame.

Adjustment Procedures

1. G GAIN adjustment
   Settings for camera switches:
   [BVP-900/700] G button (rear panel) ⇨ ON
   R/B buttons (rear panel) ⇨ OFF
   [BVP-950] Select G signal by pushing down the TEST OUT switch (side panel) from the RGB position towards the SEL position.
   (You can check which signal is selected on the viewfinder screen.)
   [BVP-750] ENC/RGB switch (side panel) ⇨ RGB
   R/G/B switch (side panel) ⇨ G

   Adj.Point: ⊘RV200 (G GAIN) /VA-157 board
   Specification:

Model	Serial No.	Shutter Speed Select (MSU-700 ECS/SHUTTER control block)	Specifications
OHB-750A (UCJ)	All	——	A = 100 ±2 IRE
OHB-750WSA (UCJ)	All	1/100	A = 90 ±2 IRE
OHB-730 (UCJ)	10031 and higher	1/100	A = 90 ±2 IRE
	10001 thru 10030	——	A = 100 ±2 IRE
OHB-730WS (UCJ)	All	1/100	A = 90 ±2 IRE
OHB-750AP(CE)	All	——	A = 700 ±14 mV
OHB-750WSAP (CE)	All	1/125	A = 350 ±14 mV
OHB-730P (CE)	All		
OHB-730WSP (CE)	All		



2. R GAIN adjustment
   Settings for camera switches:
   [BVP-900/700] R button (rear panel) ⇨ ON
   G/B buttons (rear panel) ⇨ OFF
   [BVP-950] Select R signal by pushing down the TEST OUT switch (side panel) from the RGB position towards the SEL position.
   [BVP-750] R/G/B switch (side panel) ⇨ R

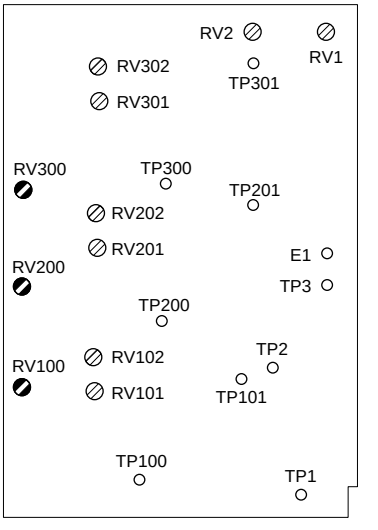
   Adj.Point: ⊘RV100 (R GAIN) /VA-157 board
   Specification: The same as for G GAIN adjustment.

3. B GAIN adjustment
   Settings for camera switches:
   [BVP-900/700] B button (rear panel) ⇨ ON
   R/G buttons (rear panel) ⇨ OFF
   [BVP-950] Select B signal by pushing down the TEST OUT switch (side panel) from the RGB position towards the SEL position.
   [BVP-750] R/G/B switch (side panel) ⇨ B

   Adj.Point: ⊘RV300 (B GAIN) /VA-157 board
   Specification: The same as for G GAIN adjustment.

Setting After the Completion

- R/G/B buttons (BVP-900/700 rear panel) ⇨ OFF
  TEST OUT switch (BVP-950 side panel) ⇨ ENC
  ENC/RGB switch (BVP-750 side panel) ⇨ ENC



VA-157 (B side)

2-8. Filter Positioning Adjustment

Notes

- This adjustment is required only when replacing the servo driver board in the filter disk unit.
- The filter disk unit has adjustment controls inside . To adjust them, the filter disk unit should be removed from the OHB. After adjusting each control, reinstall to check filter positioning by viewing from the lens mount.
  Repeat the actions shown above until all filters are correctly positioned.

Preparation

- MOTOR switch/servo driver board ⇨ ON

Adjustment Procedures

1. ND 1 button (MSU-700) ⇨ ON

2. Adjust ⊘RV1 (VR1) on the servo driver board so that the ND 1 (clear) filter stops at a click position (on the optical axis of the lens) when viewed from the lens mount.

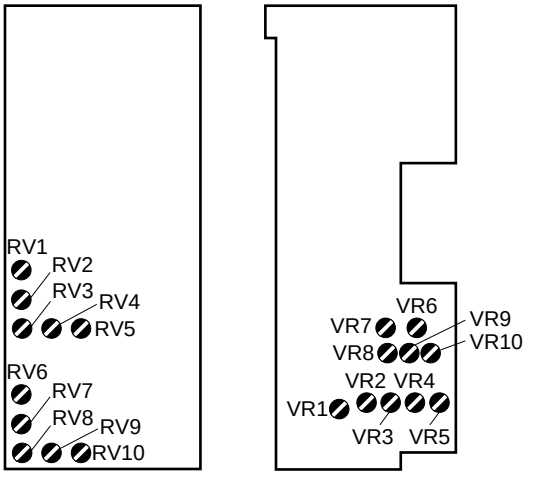
3. Adjust ⊘RV6 (VR6) so that the CC 1 (cross) filter is aligned with the ND 1 filter when viewed from the lens mount. After that, align positioning for the CC 2 to CC5 filters in the same manner.

4. CC 1 button(MSU-700) ⇨ ON

5. Adjust ⊘RV2 (VR2) so that the ND 2 filter is aligned with the CC 1 filter when viewed from the lens mount. After that, align positioning for the ND3 to ND5 filters in the same manner.

6. Install the filter disk unit in the OHB. Check that all filters are correctly positioned while pressing the ND and CC buttons on the MSU-700 one by one.

Filter	Adj.Points	(A)	(B)
ND 1 (clear)		⊘RV1	⊘VR1
ND 2 (1/4 ND)		⊘RV2	⊘VR2
ND 3 (1/8 ND)		⊘RV3	⊘VR3
ND 4 (1/16 ND)		⊘RV4	⊘VR4
ND 5 (1/64 ND)		⊘RV5	⊘VR5
CC 1 (cross)		⊘RV6	⊘VR6
CC 2 (clear)		⊘RV7	⊘VR7
CC 3 (4300 K)		⊘RV8	⊘VR8
CC 4 (5600 K)		⊘RV9	⊘VR9
CC 5 (8000 K)		⊘RV10	⊘VR10



Servo driver board (A) Servo driver board (B)

∗ Servo driver boards (A) and (B) are compatible.

Section 3
Spare Parts

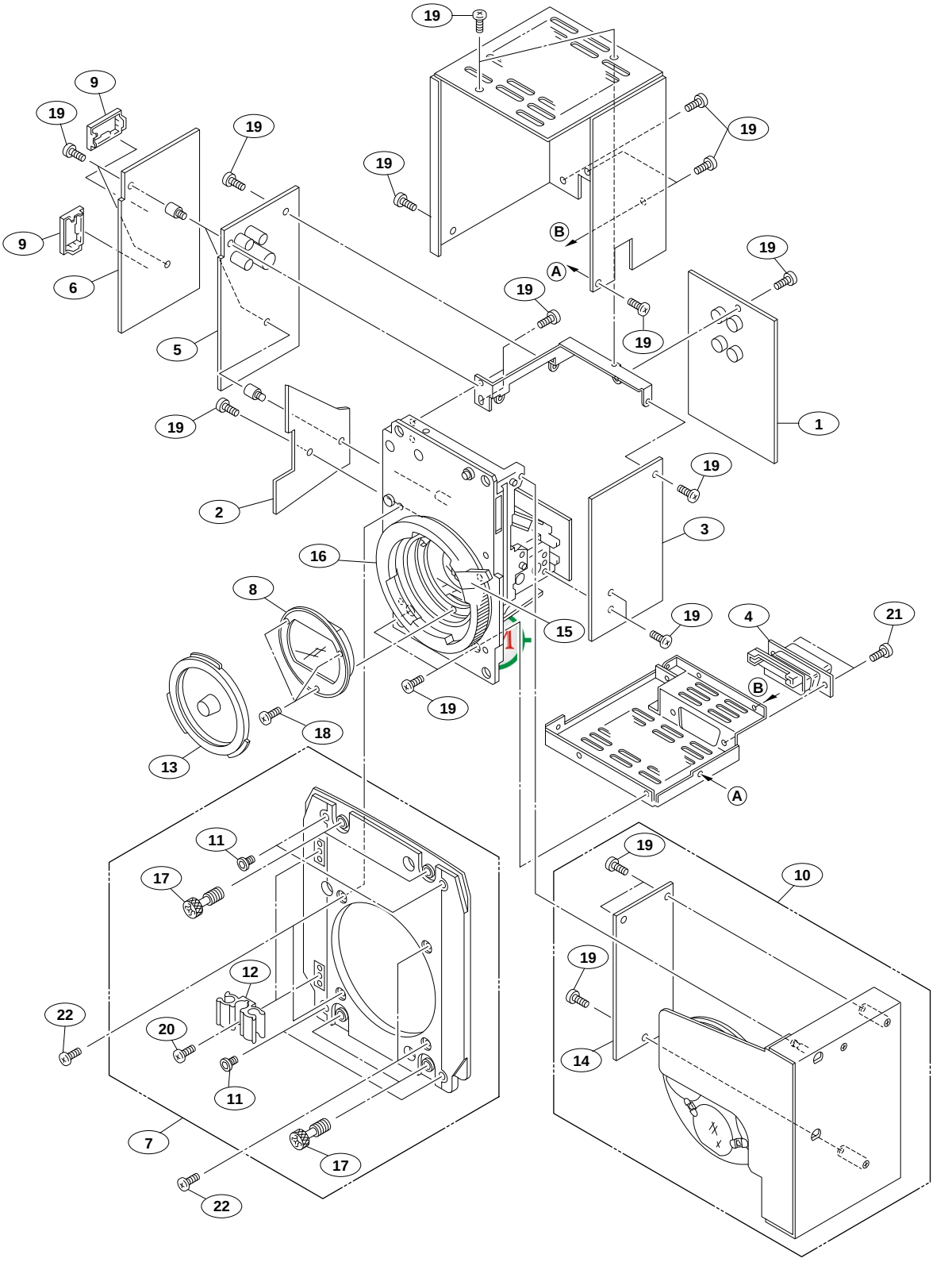
注意

・本機に使用されているSH基板およびPA基板は，OHBの種類やシリアルナンバにより異なります。
詳しくは6−1ページを参照してください。
・OHB−750/750WにBKP−7091を組み込んでアップグレードした場合，OHBの種類ごとにTG−193基板の部品構成が異なります。詳しくは1−7項を参照してください。
その他の補修部品については，このマニュアルとOHB−750/750Wに付属のメンテナンスマニュアルを合わせてご覧ください。

Note

・The SH and PA boards differ depending on the OHB type or OHB’s serial number. Refer to Page 6-1 for details.
・When installing the BKP-7091 in the OHB-750/750P/750W/750WP, parts configuration of the TG-193 mounted circuit board differs depending on the type of OHB. Refer to Section 1-7 for details. For other replacement parts, see the OHB-750/750P/750W/750WP maintenance manual together with this manual.

3-1. Exploded View



No.	Part No.	SP	Description
1	A-8263-992-A	o	MOUNTED CIRCUIT BOARD, VA-157
2	A-8314-000-A	o	MOUNTED CIRCUIT BOARD, DR-258
3	A-8314-003-A	o	MOUNTED CIRCUIT BOARD, SH-55 *
	A-8319-997-A	o	MOUNTED CIRCUIT BOARD, SH-55A *
4	A-8314-005-A	o	MOUNTED CIRCUIT BOARD, CN-1118
5	A-8317-777-A	o	MOUNTED CIRCUIT BOARD,TG-193A (FOR OHB-750A)
	A-8317-786-A	o	MOUNTED CIRCUIT BOARD,TG-193P (FOR OHB-750AP)
	A-8317-797-A	o	MOUNTED CIRCUIT BOARD,TG-193WA (FOR OHB-750WSA)
	A-8317-802-A	o	MOUNTED CIRCUIT BOARD,TG-193WP (FOR OHB-750WSAP)
	A-8318-357-A	o	MOUNTED CIRCUIT BOARD,TG-193 (FOR OHB-730)
	A-8318-364-A	o	MOUNTED CIRCUIT BOARD,TG-193E (FOR OHB-730P)
	A-8318-377-A	o	MOUNTED CIRCUIT BOARD,TG-193W (FOR OHB-730WS)
	A-8318-384-A	o	MOUNTED CIRCUIT BOARD,TG-193WE (FOR OHB-730WSP)
6	A-8317-779-A	o	MOUNTED CIRCUIT BOARD,TG-194
7	X-3168-024-1	o	PANEL ASSY, FRONT
8	1-475-771-11	o	FILTER UNIT, OPTICAL (FOR OHB-730/750A)
	1-475-772-11	o	FILTER UNIT, OPTICAL (FOR OHB-730WS/750WSA)
	1-475-773-11	o	FILTER UNIT, OPTICAL (FOR OHB-730P/750AP)
	1-475-774-11	o	FILTER UNIT, OPTICAL (FOR OHB-730WSP/750WSAP)
9	1-540-194-12	s	SOCKET, IC
10	1-547-745-11	o	DISK UNIT, FILTER (TA931B-2)
11	3-673-018-11	s	SCREW, BLIND
12	3-679-659-03	o	HOLDER, CABLE
13	3-699-048-01	s	CAP, MOUNT
14	3-708-914-02	o	DRIVER, SERVO
15	3-708-912-01	o	LEVER, MOUNT
16	3-709-220-01	o	TUBE, MOUNT
17	3-729-091-31	s	SCREW (M4X10)
18	7-627-553-48	s	SCREW,PRECISION P 2X4 (black)
19	7-627-556-37	s	SCREW,PRECISION P2.6X4 TYPE1(silver)
20	7-627-556-38	s	SCREW,PRECISION P2.6X4 TYPE1(black)
21	7-682-547-04	s	SCREW B3X6 (silver)
22	7-682-547-09	s	SCREW B3X6 (black)

＊Note
SH board differs depending on the OHB type.
Refer to Page 6-1 for details.
SH 基板はOHBの種類やシリアルナンバごとに異なります。
詳しくは6-1ページを参照してください。

3-2. Electrical Parts List

CN-1118 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8314-005-A	o	MOUNTED CIRCUIT BOARD, CN-1118
CN1	1-580-544-11	s	PIN, CONNECTOR (PC BOARD) 30P

DR-258 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8314-000-A	o	MOUNTED CIRCUIT BOARD, DR-258
C1	1-135-166-21	s	CHIP, TANTALUM 47uF 10% 10V
C2	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C3	1-135-166-21	s	CHIP, TANTALUM 47uF 10% 10V
C4	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C5	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C6	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C7	1-162-964-11	s	CHIP, CERAMIC 0.001uF 10% 50V
C8	1-162-964-11	s	CHIP, CERAMIC 0.001uF 10% 50V
C9	1-162-964-11	s	CHIP, CERAMIC 0.001uF 10% 50V
C10	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C11	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C12	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C13	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C14	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C15	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C16	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C17	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C18	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C19	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
CN1	1-695-936-51	s	CONNECTOR, BOARD TO BOARD 30P
CN2	1-766-601-11	s	CONNECTOR, BOARD TO BOARD 22P
CN3	1-766-602-21	o	CONNECTOR, FPC (ZIF) 24P
CN4	1-766-602-21	o	CONNECTOR, FPC (ZIF) 24P
CN5	1-766-602-21	o	CONNECTOR, FPC (ZIF) 24P
IC1	8-759-242-50	s	IC TC74AC86P
IC2	8-759-242-50	s	IC TC74AC86P
IC3	8-759-332-50	s	IC MC74AC04MEL
IC4	8-759-058-62	s	IC TC7S08FU(TE85R)
IC5	8-759-058-62	s	IC TC7S08FU(TE85R)
IC6	8-759-058-62	s	IC TC7S08FU(TE85R)
IC7	8-759-058-62	s	IC TC7S08FU(TE85R)
IC8	8-759-058-62	s	IC TC7S08FU(TE85R)
IC9	8-759-058-62	s	IC TC7S08FU(TE85R)
L1	1-412-026-11	s	INDUCTOR CHIP 1uH
L2	1-412-026-11	s	INDUCTOR CHIP 1uH
R1	1-218-644-11	s	METAL 10 0.50% 1/16W
R2	1-218-644-11	s	METAL 10 0.50% 1/16W
R3	1-218-644-11	s	METAL 10 0.50% 1/16W
R4	1-218-644-11	s	METAL 10 0.50% 1/16W
R5	1-218-644-11	s	METAL 10 0.50% 1/16W
R6	1-218-644-11	s	METAL 10 0.50% 1/16W
R7	1-218-644-11	s	METAL 10 0.50% 1/16W
R8	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R9	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R10	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R11	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R12	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R13	1-218-744-11	s	METAL 150K 0.50% 1/16W
R14	1-218-744-11	s	METAL 150K 0.50% 1/16W
R15	1-218-744-11	s	METAL 150K 0.50% 1/16W
R16	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R17	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R18	1-216-854-11	s	METAL, CHIP 560K 5% 1/16W
R19	1-218-750-11	s	METAL 270K 0.50% 1/16W
R20	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R21	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W

(DR-258 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R22	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R23	1-216-854-11	s	METAL, CHIP 560K 5% 1/16W
R24	1-218-750-11	s	METAL 270K 0.50% 1/16W
R25	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R26	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R27	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R28	1-216-854-11	s	METAL, CHIP 560K 5% 1/16W
R29	1-218-750-11	s	METAL 270K 0.50% 1/16W
R30	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R34	1-218-656-11	s	CHIP,METAL 33 0.50% 1/16W
R35	1-218-644-11	s	METAL 10 0.50% 1/16W
SW1	1-692-270-41	s	SWITCH, SLIDE
SW2	1-692-270-41	s	SWITCH, SLIDE
SW3	1-692-270-41	s	SWITCH, SLIDE

PA-174A BOARD (for OHB-750A/750AP/750WSA/750WSAP)

Ref. No. or Q'ty	Part No.	SP	Description
C1	1-135-079-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C2	1-135-079-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C3	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C4	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C5	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C6	1-135-092-21	s	TANTALUM, CHIP 3.3uF 10% 16V
C7	1-135-079-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C8	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C9	1-162-959-11	s	CERAMIC 330PF 5% 50V
C10	1-135-092-21	s	TANTALUM, CHIP 3.3uF 10% 16V
C11	1-135-164-21	s	CHIP, TANTALUM 22uF 20% 10V
C13	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C14	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C15	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C16	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C17	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C18	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C19	1-162-921-11	s	CHIP, CERAMIC 33PF 5% 50V
C21	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C22	1-135-164-21	s	CHIP, TANTALUM 22uF 20% 10V
C23	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C24	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C25	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C26	1-162-927-11	s	CHIP, CERAMIC 100PF 5% 50V
CV1	1-141-417-11	s	CAP, ADJ 30PF
D1	8-719-820-41	s	DIODE 1SS302
D2	8-719-024-81	s	DIODE 1SS300-TE85L
D3	8-719-820-41	s	DIODE 1SS302
D4	8-719-024-81	s	DIODE 1SS300-TE85L
L1	1-412-026-11	s	INDUCTOR CHIP 1uH
L2	1-412-026-11	s	INDUCTOR CHIP 1uH
Q1	8-729-421-71	s	TRANSISTOR 2SK620
Q2	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q3	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q4	8-729-116-64	s	TRANSISTOR 2SK508-K51
Q5	8-765-930-08	s	TRANSISTOR 3SK163-2
Q6	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q7	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q8	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q9	8-765-930-08	s	TRANSISTOR 3SK163-2
Q10	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q11	8-765-930-08	s	TRANSISTOR 3SK163-2
Q12	8-729-117-32	s	TRANSISTOR 2SC4177
Q13	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q14	8-729-117-32	s	TRANSISTOR 2SC4177
Q15	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q16	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q17	8-729-024-56	s	TRANSISTOR 2SA1808
Q18	8-729-230-38	s	TRANSISTOR 2SC4215Y
R1	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R2	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R3	1-218-744-11	s	METAL 150K 0.50% 1/16W
R4	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R5	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R6	1-218-738-11	s	CHIP, METAL 82K 0.50% 1/16W
R7	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R8	1-218-689-11	s	CHIP,METAL 750 0.50% 1/16W

(PA-174A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R9	1-218-719-11	s	METAL 13K 0.50% 1/16W
R10	1-218-728-11	s	METAL 33K 0.50% 1/16W
R11	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R12	1-218-726-11	s	CHIP,METAL 27K 0.50% 1/16W
R13	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R14	1-218-733-11	s	CHIP, METAL 51K 0.50% 1/16W
R15	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R16	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R17	1-218-644-11	s	METAL 10 0.50% 1/16W
R18	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R19	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R20	1-218-656-11	s	CHIP,METAL 33 0.50% 1/16W
R21	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R22	1-218-685-11	s	METAL 510 0.50% 1/16W
R23	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R24	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R25	1-218-685-11	s	METAL 510 0.50% 1/16W
R26	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R27	1-218-733-11	s	CHIP, METAL 51K 0.50% 1/16W
R28	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R29	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R30	1-218-656-11	s	CHIP,METAL 33 0.50% 1/16W
R31	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R32	1-218-656-11	s	CHIP,METAL 33 0.50% 1/16W
R33	1-218-703-11	s	CHIP,METAL 3K 0.50% 1/16W
R34	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R35	1-218-720-11	s	CHIP, METAL 15K 0.50% 1/16W
R36	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R37	1-218-688-11	s	METAL 680 0.50% 1/16W
R38	1-218-683-11	s	METAL 430 0.50% 1/16W
R39	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R40	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R42	1-218-680-11	s	METAL 330 0.50% 1/16W
R43	1-218-683-11	s	METAL 430 0.50% 1/16W
R44	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R45	1-218-701-11	s	METAL 2.4K 0.50% 1/16W
R46	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R47	1-218-723-11	s	CHIP, METAL 20K 0.50% 1/16W
R48	1-218-644-11	s	METAL 10 0.50% 1/16W
R49	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R54	1-218-644-11	s	METAL 10 0.50% 1/16W
R55	1-218-644-11	s	METAL 10 0.50% 1/16W
R56	1-216-856-11	s	METAL, CHIP 820K 5% 1/16W
RV1	1-241-261-41	s	RES, ADJ, METAL 1K

PA-175A BOARD (for OHB-750A/750AP/750WSA/750WSAP)

Ref. No. or Q'ty	Part No.	SP	Description
C1	1-135-079-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C2	1-135-079-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C3	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C4	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C5	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C6	1-135-092-21	s	TANTALUM, CHIP 3.3uF 10% 16V
C7	1-135-079-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C8	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C9	1-162-959-11	s	CERAMIC 330PF 5% 50V
C10	1-135-092-21	s	TANTALUM, CHIP 3.3uF 10% 16V
C11	1-135-164-21	s	CHIP, TANTALUM 22uF 20% 10V
C13	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C14	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C15	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C16	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C17	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C18	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C19	1-162-921-11	s	CHIP, CERAMIC 33PF 5% 50V
C21	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C22	1-135-164-21	s	CHIP, TANTALUM 22uF 20% 10V
C23	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C24	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C25	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C26	1-162-927-11	s	CHIP, CERAMIC 100PF 5% 50V
CV1	1-141-417-11	s	CAP, ADJ 30PF
D1	8-719-820-41	s	DIODE 1SS302
D2	8-719-024-81	s	DIODE 1SS300-TE85L
D3	8-719-820-41	s	DIODE 1SS302
D4	8-719-024-81	s	DIODE 1SS300-TE85L
L1	1-412-026-11	s	INDUCTOR CHIP 1uH
L2	1-412-026-11	s	INDUCTOR CHIP 1uH
Q1	8-729-421-71	s	TRANSISTOR 2SK620
Q2	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q3	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q4	8-729-116-64	s	TRANSISTOR 2SK508-K51
Q5	8-765-930-08	s	TRANSISTOR 3SK163-2
Q6	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q7	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q8	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q9	8-765-930-08	s	TRANSISTOR 3SK163-2
Q10	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q11	8-765-930-08	s	TRANSISTOR 3SK163-2
Q12	8-729-117-32	s	TRANSISTOR 2SC4177
Q13	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q14	8-729-117-32	s	TRANSISTOR 2SC4177
Q15	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q16	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q17	8-729-024-56	s	TRANSISTOR 2SA1808
Q18	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q19	8-729-230-38	s	TRANSISTOR 2SC4215Y
R1	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R2	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R3	1-218-744-11	s	METAL 150K 0.50% 1/16W
R4	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R5	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R6	1-218-738-11	s	CHIP, METAL 82K 0.50% 1/16W
R7	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W

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(PA-175A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R8	1-218-689-11	s	CHIP,METAL 750 0.50% 1/16W
R9	1-218-719-11	s	METAL 13K 0.50% 1/16W
R10	1-218-728-11	s	METAL 33K 0.50% 1/16W
R11	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R12	1-218-726-11	s	CHIP,METAL 27K 0.50% 1/16W
R13	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R14	1-218-733-11	s	CHIP, METAL 51K 0.50% 1/16W
R15	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R16	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R17	1-218-644-11	s	METAL 10 0.50% 1/16W
R18	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R19	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R20	1-218-656-11	s	CHIP,METAL 33 0.50% 1/16W
R21	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R22	1-218-685-11	s	METAL 510 0.50% 1/16W
R23	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R24	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R25	1-218-685-11	s	METAL 510 0.50% 1/16W
R26	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R27	1-218-733-11	s	CHIP, METAL 51K 0.50% 1/16W
R28	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R29	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R30	1-218-656-11	s	CHIP,METAL 33 0.50% 1/16W
R31	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R32	1-218-656-11	s	CHIP,METAL 33 0.50% 1/16W
R33	1-218-703-11	s	CHIP,METAL 3K 0.50% 1/16W
R34	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R35	1-218-720-11	s	CHIP, METAL 15K 0.50% 1/16W
R36	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R37	1-218-688-11	s	METAL 680 0.50% 1/16W
R38	1-218-683-11	s	METAL 430 0.50% 1/16W
R39	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R40	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R42	1-218-680-11	s	METAL 330 0.50% 1/16W
R43	1-218-683-11	s	METAL 430 0.50% 1/16W
R44	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R45	1-218-701-11	s	METAL 2.4K 0.50% 1/16W
R46	1-218-719-11	s	METAL 13K 0.50% 1/16W
R47	1-218-722-11	s	CHIP, METAL 18K 0.50% 1/16W
R48	1-218-644-11	s	METAL 10 0.50% 1/16W
R49	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R50	1-218-680-11	s	METAL 330 0.50% 1/16W
R51	1-218-680-11	s	METAL 330 0.50% 1/16W
R52	1-218-707-11	s	CHIP, METAL 4.3K 0.50% 1/16W
R53	1-218-644-11	s	METAL 10 0.50% 1/16W
R54	1-218-644-11	s	METAL 10 0.50% 1/16W
R55	1-218-644-11	s	METAL 10 0.50% 1/16W
R56	1-216-858-11	s	METAL, CHIP 1.2M 5% 1/16W
RV1	1-241-261-41	s	RES, ADJ, METAL 1K

PA-176A BOARD (for OHB-750A/750AP/750WSA/750WSAP)

Ref. No. or Q'ty	Part No.	SP	Description
C1	1-135-079-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C2	1-135-079-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C3	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C4	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C5	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C6	1-135-092-21	s	TANTALUM, CHIP 3.3uF 10% 16V
C7	1-135-079-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C8	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C9	1-162-959-11	s	CERAMIC 330PF 5% 50V
C10	1-135-092-21	s	TANTALUM, CHIP 3.3uF 10% 16V
C11	1-135-164-21	s	CHIP, TANTALUM 22uF 20% 10V
C13	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C14	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C15	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C16	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C17	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C18	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C19	1-162-921-11	s	CHIP, CERAMIC 33PF 5% 50V
C21	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C22	1-135-164-21	s	CHIP, TANTALUM 22uF 20% 10V
C23	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C24	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C25	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C26	1-162-927-11	s	CHIP, CERAMIC 100PF 5% 50V
CV1	1-141-417-11	s	CAP, ADJ 30PF
D1	8-719-820-41	s	DIODE 1SS302
D2	8-719-024-81	s	DIODE 1SS300-TE85L
D3	8-719-820-41	s	DIODE 1SS302
D4	8-719-024-81	s	DIODE 1SS300-TE85L
L1	1-412-026-11	s	INDUCTOR CHIP 1uH
L2	1-412-026-11	s	INDUCTOR CHIP 1uH
Q1	8-729-421-71	s	TRANSISTOR 2SK620
Q2	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q3	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q4	8-729-116-64	s	TRANSISTOR 2SK508-K51
Q5	8-765-930-08	s	TRANSISTOR 3SK163-2
Q6	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q7	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q8	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q9	8-765-930-08	s	TRANSISTOR 3SK163-2
Q10	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q11	8-765-930-08	s	TRANSISTOR 3SK163-2
Q12	8-729-117-32	s	TRANSISTOR 2SC4177
Q13	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q14	8-729-117-32	s	TRANSISTOR 2SC4177
Q15	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q16	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q17	8-729-024-56	s	TRANSISTOR 2SA1808
Q18	8-729-230-38	s	TRANSISTOR 2SC4215Y
R1	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R2	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R3	1-218-744-11	s	METAL 150K 0.50% 1/16W
R4	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R5	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R6	1-218-738-11	s	CHIP, METAL 82K 0.50% 1/16W
R7	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R8	1-218-689-11	s	CHIP,METAL 750 0.50% 1/16W

(PA-176A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R9	1-218-719-11	s	METAL 13K 0.50% 1/16W
R10	1-218-728-11	s	METAL 33K 0.50% 1/16W
R11	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R12	1-218-726-11	s	CHIP,METAL 27K 0.50% 1/16W
R13	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R14	1-218-733-11	s	CHIP, METAL 51K 0.50% 1/16W
R15	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R16	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R17	1-218-644-11	s	METAL 10 0.50% 1/16W
R18	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R19	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R20	1-218-656-11	s	CHIP,METAL 33 0.50% 1/16W
R21	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R22	1-218-685-11	s	METAL 510 0.50% 1/16W
R23	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R24	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R25	1-218-685-11	s	METAL 510 0.50% 1/16W
R26	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R27	1-218-733-11	s	CHIP, METAL 51K 0.50% 1/16W
R28	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R29	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R30	1-218-656-11	s	CHIP,METAL 33 0.50% 1/16W
R31	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R32	1-218-656-11	s	CHIP,METAL 33 0.50% 1/16W
R33	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R34	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R35	1-218-720-11	s	CHIP, METAL 15K 0.50% 1/16W
R36	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R37	1-218-688-11	s	METAL 680 0.50% 1/16W
R38	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R39	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R40	1-218-746-11	s	METAL 180K 0.50% 1/16W
R42	1-218-680-11	s	METAL 330 0.50% 1/16W
R43	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R44	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R45	1-218-701-11	s	METAL 2.4K 0.50% 1/16W
R46	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R47	1-218-723-11	s	CHIP, METAL 20K 0.50% 1/16W
R48	1-218-644-11	s	METAL 10 0.50% 1/16W
R49	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R54	1-218-644-11	s	METAL 10 0.50% 1/16W
R55	1-218-644-11	s	METAL 10 0.50% 1/16W
R56	1-218-743-11	s	METAL 130K 0.50% 1/16W
RV1	1-241-261-41	s	RES, ADJ, METAL 1K

PA-222/222A/222B BOARD (PA-222/222B for OHB-730/730P)
(PA-222A for OHB-730WS/730WSP)

Ref. No. or Q'ty	Part No.	SP	Description
C1	1-113-992-11	s	CHIP, TANTALUM 3.3uF 20% 35V
C2	1-113-992-11	s	CHIP, TANTALUM 3.3uF 20% 35V
C3	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C4	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C5	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C6	1-104-912-11	s	CHIP, TANTALUM 3.3uF 20% 16V
C7	1-113-992-11	s	CHIP, TANTALUM 3.3uF 20% 35V
C8	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C9	1-162-959-11	s	CERAMIC 330PF 5% 50V
C10	1-104-912-11	s	CHIP, TANTALUM 3.3uF 20% 16V
C11	1-104-914-11	s	TANTAL 22uF 20% 16V
C13	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C14	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C15	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C16	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C17	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C18	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C19	1-162-921-11	s	CHIP, CERAMIC 33PF 5% 50V
C21	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C22	1-104-914-11	s	TANTAL 22uF 20% 16V
C23	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C24	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C25	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C26	1-162-927-11	s	CHIP, CERAMIC 100PF 5% 50V
CV1	1-141-404-11	s	CAP, TRIMMER 30PF
D1	8-719-820-41	s	DIODE 1SS302
D2	8-719-024-81	s	DIODE 1SS300-TE85L
D3	8-719-820-41	s	DIODE 1SS302
D4	8-719-024-81	s	DIODE 1SS300-TE85L
L1	1-412-026-11	s	INDUCTOR CHIP 1uH
L2	1-412-026-11	s	INDUCTOR CHIP 1uH
Q1	8-729-421-71	s	TRANSISTOR 2SK620
Q2	8-729-040-48	s	TRANSISTOR 2SA1688-4-SONY-TL
Q3	8-729-040-48	s	TRANSISTOR 2SA1688-4-SONY-TL
Q4	8-729-116-64	s	TRANSISTOR 2SK508-K51
Q5	8-765-930-08	s	TRANSISTOR 3SK163-2
Q6	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q7	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q8	8-729-040-48	s	TRANSISTOR 2SA1688-4-SONY-TL
Q9	8-765-930-08	s	TRANSISTOR 3SK163-2
Q10	8-729-040-48	s	TRANSISTOR 2SA1688-4-SONY-TL
Q11	8-765-930-08	s	TRANSISTOR 3SK163-2
Q12	8-729-117-32	s	TRANSISTOR 2SC4177
Q13	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q14	8-729-117-32	s	TRANSISTOR 2SC4177
Q15	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q16	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q17	8-729-024-56	s	TRANSISTOR 2SA1808
Q18	8-729-230-38	s	TRANSISTOR 2SC4215Y
R1	1-216-857-11	s	CHIP, METAL 1M 5% 1/16W
R2	1-216-857-11	s	CHIP, METAL 1M 5% 1/16W
R3	1-218-744-11	s	METAL 150K 0.50% 1/16W
R4	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R5	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R6	1-218-738-11	s	CHIP, METAL 82K 0.50% 1/16W
R7	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R8	1-218-682-11	s	CHIP, METAL 390 0.50% 1/16W

(for PA-222 BOARD)

(PA-222/222A/222B BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R8	1-218-689-11	s	CHIP, METAL 750 0.50% 1/16W (for PA-222A BOARD)
R9	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W (for PA-222 BOARD)
R9	1-218-719-11	s	CHIP, METAL 13K 0.50% 1/16W (for PA-222A BOARD)
R10	1-218-728-11	s	CHIP, METAL 33K 0.50% 1/16W (for PA-222A BOARD)
R10	1-218-729-11	s	CHIP, METAL 36K 0.50% 1/16W (for PA-222 BOARD)
R11	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R12	1-218-726-11	s	CHIP, METAL 27K 0.50% 1/16W
R13	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R14	1-218-733-11	s	CHIP, METAL 51K 0.50% 1/16W
R15	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R16	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R17	1-218-644-11	s	METAL 10 0.50% 1/16W
R18	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R19	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R20	1-218-656-11	s	CHIP, METAL 33 0.50% 1/16W
R21	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R22	1-218-685-11	s	METAL 510 0.50% 1/16W
R23	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R24	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R25	1-218-685-11	s	METAL 510 0.50% 1/16W
R26	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R27	1-218-733-11	s	CHIP, METAL 51K 0.50% 1/16W
R28	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R29	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R30	1-218-656-11	s	CHIP, METAL 33 0.50% 1/16W
R31	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R32	1-218-656-11	s	CHIP, METAL 33 0.50% 1/16W
R33	1-218-703-11	s	CHIP, METAL 3K 0.50% 1/16W
R34	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R35	1-218-720-11	s	CHIP, METAL 15K 0.50% 1/16W
R36	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R37	1-218-688-11	s	METAL 680 0.50% 1/16W
R38	1-218-683-11	s	CHIP, METAL 430 0.50% 1/16W (for PA-222A/222B board)
R38	1-218-681-11	s	CHIP, METAL 360 0.50% 1/16W (for PA-222 board)
R39	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R40	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R42	1-218-680-11	s	METAL 330 0.50% 1/16W
R43	1-218-683-11	s	CHIP, METAL 430 0.50% 1/16W (for PA-222A/222B board)
R43	1-218-681-11	s	CHIP, METAL 360 0.50% 1/16W (for PA-222 board)
R44	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R45	1-218-701-11	s	METAL 2.4K 0.50% 1/16W
R46	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R47	1-218-723-11	s	CHIP, METAL 20K 0.50% 1/16W
R48	1-218-644-11	s	METAL 10 0.50% 1/16W
R49	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R54	1-218-644-11	s	METAL 10 0.50% 1/16W
R55	1-218-644-11	s	METAL 10 0.50% 1/16W
R56	1-216-856-11	s	METAL, CHIP 820K 5% 1/16W
RV1	1-241-261-41	s	RES, ADJ, METAL 1K

PA-223/223A/223B BOARD (PA-223/223B for OHB-730/730P)
(PA-223A for OHB-730WS/730WSP)

Ref. No. or Q'ty	Part No.	SP	Description
C1	1-113-992-11	s	CHIP, TANTALUM 3.3uF 20% 35V
C2	1-113-992-11	s	CHIP, TANTALUM 3.3uF 20% 35V
C3	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C4	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C5	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C6	1-104-912-11	s	CHIP, TANTALUM 3.3uF 20% 16V
C7	1-113-992-11	s	CHIP, TANTALUM 3.3uF 20% 35V
C8	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C9	1-162-959-11	s	CERAMIC 330PF 5% 50V
C10	1-104-912-11	s	CHIP, TANTALUM 3.3uF 20% 16V
C11	1-104-914-11	s	TANTAL 22uF 20% 16V
C13	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C14	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C15	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C16	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C17	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C18	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C19	1-162-921-11	s	CHIP, CERAMIC 33PF 5% 50V
C21	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C22	1-104-914-11	s	TANTAL 22uF 20% 16V
C23	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C24	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C25	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C26	1-162-927-11	s	CHIP, CERAMIC 100PF 5% 50V
CV1	1-141-404-11	s	CAP, TRIMMER 30PF
D1	8-719-820-41	s	DIODE 1SS302
D2	8-719-024-81	s	DIODE 1SS300-TE85L
D3	8-719-820-41	s	DIODE 1SS302
D4	8-719-024-81	s	DIODE 1SS300-TE85L
L1	1-412-026-11	s	INDUCTOR CHIP 1uH
L2	1-412-026-11	s	INDUCTOR CHIP 1uH
Q1	8-729-421-71	s	TRANSISTOR 2SK620
Q2	8-729-040-48	s	TRANSISTOR 2SA1688-4-SONY-TL
Q3	8-729-040-48	s	TRANSISTOR 2SA1688-4-SONY-TL
Q4	8-729-116-64	s	TRANSISTOR 2SK508-K51
Q5	8-765-930-08	s	TRANSISTOR 3SK163-2
Q6	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q7	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q8	8-729-040-48	s	TRANSISTOR 2SA1688-4-SONY-TL
Q9	8-765-930-08	s	TRANSISTOR 3SK163-2
Q10	8-729-040-48	s	TRANSISTOR 2SA1688-4-SONY-TL
Q11	8-765-930-08	s	TRANSISTOR 3SK163-2
Q12	8-729-117-32	s	TRANSISTOR 2SC4177
Q13	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q14	8-729-117-32	s	TRANSISTOR 2SC4177
Q15	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q16	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q17	8-729-024-56	s	TRANSISTOR 2SA1808
Q18	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q19	8-729-230-38	s	TRANSISTOR 2SC4215Y
R1	1-216-857-11	s	CHIP, METAL 1M 5% 1/16W
R2	1-216-857-11	s	CHIP, METAL 1M 5% 1/16W
R3	1-218-744-11	s	METAL 150K 0.50% 1/16W
R4	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R5	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R6	1-218-738-11	s	CHIP, METAL 82K 0.50% 1/16W
R7	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R8	1-218-682-11	s	CHIP, METAL 390 0.50% 1/16W (for PA-223 BOARD)
R8	1-218-689-11	s	CHIP, METAL 750 0.50% 1/16W (for PA-223A BOARD)

(PA-223/223A/223B BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R9	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W (for PA-223 BOARD)
R9	1-218-719-11	s	CHIP, METAL 13K 0.50% 1/16W (for PA-223A BOARD)
R10	1-218-728-11	s	CHIP, METAL 33K 0.50% 1/16W (for PA-223A BOARD)
R10	1-218-729-11	s	CHIP, METAL 36K 0.50% 1/16W (for PA-223 BOARD)
R11	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R12	1-218-726-11	s	CHIP, METAL 27K 0.50% 1/16W
R13	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R14	1-218-733-11	s	CHIP, METAL 51K 0.50% 1/16W
R15	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R16	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R17	1-218-644-11	s	METAL 10 0.50% 1/16W
R18	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R19	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R20	1-218-656-11	s	CHIP, METAL 33 0.50% 1/16W
R21	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R22	1-218-685-11	s	METAL 510 0.50% 1/16W
R23	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R24	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R25	1-218-685-11	s	METAL 510 0.50% 1/16W
R26	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R27	1-218-733-11	s	CHIP, METAL 51K 0.50% 1/16W
R28	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R29	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R30	1-218-656-11	s	CHIP, METAL 33 0.50% 1/16W
R31	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R32	1-218-656-11	s	CHIP, METAL 33 0.50% 1/16W
R33	1-218-703-11	s	CHIP, METAL 3K 0.50% 1/16W
R34	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R35	1-218-720-11	s	CHIP, METAL 15K 0.50% 1/16W
R36	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R37	1-218-688-11	s	METAL 680 0.50% 1/16W
R38	1-218-683-11	s	CHIP, METAL 430 0.50% 1/16W (for PA-223A/223B board)
R38	1-218-681-11	s	CHIP, METAL 360 0.50% 1/16W (for PA-223 board)
R39	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R40	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R42	1-218-680-11	s	METAL 330 0.50% 1/16W
R43	1-218-683-11	s	CHIP, METAL 430 0.50% 1/16W (for PA-223A/223B board)
R43	1-218-681-11	s	CHIP, METAL 360 0.50% 1/16W (for PA-223 board)
R44	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R45	1-218-701-11	s	METAL 2.4K 0.50% 1/16W
R46	1-218-719-11	s	METAL 13K 0.50% 1/16W
R47	1-218-723-11	s	CHIP, METAL 20K 0.50% 1/16W
R48	1-218-644-11	s	METAL 10 0.50% 1/16W
R49	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R50	1-218-680-11	s	METAL 330 0.50% 1/16W
R51	1-218-680-11	s	METAL 330 0.50% 1/16W
R52	1-218-707-11	s	CHIP, METAL 4.3K 0.50% 1/16W
R53	1-218-644-11	s	METAL 10 0.50% 1/16W
R54	1-218-644-11	s	METAL 10 0.50% 1/16W
R55	1-218-644-11	s	METAL 10 0.50% 1/16W
R56	1-216-858-11	s	CHIP, METAL 1.2M 5% 1/16W
RV1	1-241-261-41	s	RES, ADJ, METAL 1K

PA-224/224A/224B BOARD (PA-224/224B for OHB-730/730P)
(PA-224A for OHB-730WS/730WSP)

Ref. No. or Q'ty	Part No.	SP	Description
C1	1-113-992-11	s	CHIP, TANTALUM 3.3uF 20% 35V
C2	1-113-992-11	s	CHIP, TANTALUM 3.3uF 20% 35V
C3	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C4	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C5	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C6	1-104-912-11	s	CHIP,TANTALUM 3.3uF 20% 16V
C7	1-113-992-11	s	CHIP,TANTALUM 3.3uF 20% 35V
C8	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C9	1-162-959-11	s	CERAMIC 330PF 5% 50V
C10	1-104-912-11	s	CHIP,TANTALUM 3.3uF 20% 16V
C11	1-104-914-11	s	TANTAL 22uF 20% 16V
C13	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C14	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C15	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C16	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C17	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C18	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C19	1-162-921-11	s	CHIP, CERAMIC 33PF 5% 50V
C21	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C22	1-104-914-11	s	TANTAL 22uF 20% 16V
C23	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C24	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C25	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C26	1-162-927-11	s	CHIP, CERAMIC 100PF 5% 50V
CV1	1-141-404-11	s	CAP, TRIMMER 30PF
D1	8-719-820-41	s	DIODE 1SS302
D2	8-719-024-81	s	DIODE 1SS300-TE85L
D3	8-719-820-41	s	DIODE 1SS302
D4	8-719-024-81	s	DIODE 1SS300-TE85L
L1	1-412-026-11	s	INDUCTOR CHIP 1uH
L2	1-412-026-11	s	INDUCTOR CHIP 1uH
Q1	8-729-421-71	s	TRANSISTOR 2SK620
Q2	8-729-040-48	s	TRANSISTOR 2SA1688-4-SONY-TL
Q3	8-729-040-48	s	TRANSISTOR 2SA1688-4-SONY-TL
Q4	8-729-116-64	s	TRANSISTOR 2SK508-K51
Q5	8-765-930-08	s	TRANSISTOR 3SK163-2
Q6	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q7	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q8	8-729-040-48	s	TRANSISTOR 2SA1688-4-SONY-TL
Q9	8-765-930-08	s	TRANSISTOR 3SK163-2
Q10	8-729-040-48	s	TRANSISTOR 2SA1688-4-SONY-TL
Q11	8-765-930-08	s	TRANSISTOR 3SK163-2
Q12	8-729-117-32	s	TRANSISTOR 2SC4177
Q13	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q14	8-729-117-32	s	TRANSISTOR 2SC4177
Q15	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q16	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q17	8-729-024-56	s	TRANSISTOR 2SA1808
Q18	8-729-230-38	s	TRANSISTOR 2SC4215Y
R1	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R2	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R3	1-218-744-11	s	METAL 150K 0.50% 1/16W
R4	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R5	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R6	1-218-738-11	s	CHIP, METAL 82K 0.50% 1/16W
R7	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W

(PA-224/224A/224B BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R8	1-218-682-11	s	CHIP, METAL 390 0.50% 1/16W (for PA-224 BOARD)
R8	1-218-689-11	s	CHIP, METAL 750 0.50% 1/16W (for PA-224A BOARD)
R9	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W (for PA-224 BOARD)
R9	1-218-719-11	s	CHIP, METAL 13K 0.50% 1/16W (for PA-224A BOARD)
R10	1-218-728-11	s	CHIP, METAL 33K 0.50% 1/16W (for PA-224A BOARD)
R10	1-218-729-11	s	CHIP, METAL 36K 0.50% 1/16W (for PA-224 BOARD)
R11	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R12	1-218-726-11	s	CHIP, METAL 27K 0.50% 1/16W
R13	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R14	1-218-733-11	s	CHIP, METAL 51K 0.50% 1/16W
R15	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R16	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R17	1-218-644-11	s	METAL 10 0.50% 1/16W
R18	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R19	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R20	1-218-656-11	s	CHIP,METAL 33 0.50% 1/16W
R21	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R22	1-218-685-11	s	METAL 510 0.50% 1/16W
R23	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R24	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R25	1-218-685-11	s	METAL 510 0.50% 1/16W
R26	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R27	1-218-733-11	s	CHIP, METAL 51K 0.50% 1/16W
R28	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R29	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R30	1-218-656-11	s	CHIP, METAL 33 0.50% 1/16W
R31	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R32	1-218-656-11	s	CHIP, METAL 33 0.50% 1/16W
R33	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R34	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R35	1-218-720-11	s	CHIP, METAL 15K 0.50% 1/16W
R36	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R37	1-218-688-11	s	METAL 680 0.50% 1/16W
R38	1-218-676-11	s	METAL 220 0.50% 1/16W (for PA-224A/224B board)
R38	1-218-668-11	s	CHIP, METAL 180 0.50% 1/16W (for PA-224 board)
R39	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R40	1-218-746-11	s	METAL 180K 0.50% 1/16W
R42	1-218-680-11	s	METAL 330 0.50% 1/16W
R43	1-218-676-11	s	METAL 220 0.50% 1/16W (for PA-224A/224B board)
R43	1-218-668-11	s	CHIP, METAL 180 0.50% 1/16W (for PA-224 board)
R44	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R45	1-218-701-11	s	METAL 2.4K 0.50% 1/16W
R46	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R47	1-218-723-11	s	CHIP, METAL 20K 0.50% 1/16W
R48	1-218-644-11	s	METAL 10 0.50% 1/16W
R49	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R54	1-218-644-11	s	METAL 10 0.50% 1/16W
R55	1-218-644-11	s	METAL 10 0.50% 1/16W
R56	1-218-743-11	s	METAL 130K 0.50% 1/16W
RV1	1-241-261-41	s	RES, ADJ, METAL 1K

RC-68 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8317-800-A	o	MOUNTED CIRCUIT BOARD, RC-68
C1	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C2	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C3	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C4	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C5	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C6	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C7	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C8	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C9	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C10	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C11	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C12	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C13	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C14	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C15	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C16	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C17	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C18	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C19	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C20	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C21	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C22	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C23	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C24	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C25	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C26	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C27	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C28	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C29	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C30	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C31	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C32	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C33	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C34	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C35	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C36	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C37	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C38	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C39	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C40	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C41	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
C42	1-164-505-11	s	CERAMIC, CHIP 2.2uF 16V
IC4	8-759-386-26	s	IC 74LCX574MTCX
IC5	8-759-386-26	s	IC 74LCX574MTCX
IC6	8-759-918-65	s	IC TL7700CPS
L1	1-412-026-11	s	INDUCTOR CHIP 1uH
R1	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R2	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R3	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R4	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R5	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R6	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R7	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
RB1	1-239-621-11	s	NETWORK RESISTOR (CHIP) 22
RB2	1-239-621-11	s	NETWORK RESISTOR (CHIP) 22
RB3	1-239-621-11	s	NETWORK RESISTOR (CHIP) 22

SH-55/55A BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8314-003-A	o	MOUNTED CIRCUIT BOARD, SH-55 (for OHB-750A/750AP/750WSA/750WSAP)
1pc	A-8319-997-A	o	MOUNTED CIRCUIT BOARD, SH-55A (for OHB-730/730P/730WS/730WSP)
C1	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C2	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C3	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C4	1-162-964-11	s	CHIP, CERAMIC 0.001uF 10% 50V
C5	1-104-563-11	s	CHIP, FILM 0.1uF 5% 16V
C6	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C7	1-104-752-11	s	CHIP, TANTALUM 33uF 20% 6.3V
C8	1-104-559-11	s	CHIP, FILM 0.047uF 5% 16V
C9	1-162-959-11	s	CERAMIC 330PF 5% 50V
C10	1-104-555-11	s	CHIP, FILM 0.022uF 5% 16V
C11	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C12	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C13	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C14	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C15	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C16	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C17	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C18	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C19	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C20	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C21	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C22	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C23	1-135-091-00	s	TANTALUM, CHIP 1uF 20% 16V
C24	1-135-091-00	s	TANTALUM, CHIP 1uF 20% 16V
C25	1-135-091-00	s	TANTALUM, CHIP 1uF 20% 16V
C26	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C27	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C28	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C29	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C30	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C31	1-104-913-11	s	CHIP, TANTALUM 10uF 20% 16V
C32	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C33	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C34	1-162-974-11	s	CERAMIC 0.01uF 50V
C35	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C40	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C41	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
CN1	1-568-331-11	s	CONNECTOR, BOARD TO BOARD 10P
CN2	1-568-338-11	s	CONNECTOR, BOARD TO BOARD 24P
CN3	1-695-443-21	o	PIN, CONNECTOR (PC BOARD) 11P
D1	8-719-404-35	s	DIODE MA141WK
IC1	8-759-082-61	s	IC TC4W53FU
IC2	8-759-287-54	s	IC TL084CPW-E20
IC3	8-759-082-61	s	IC TC4W53FU
IC4	8-759-076-06	s	IC TL064CPW
IC5	8-759-260-55	s	IC TLC272CPW-E05
IC6	8-759-082-61	s	IC TC4W53FU
IC7	8-759-064-36	s	IC MB88346BPFV
IC8	8-759-064-36	s	IC MB88346BPFV
IC9	8-759-064-36	s	IC MB88346BPFV
IC10	8-759-064-36	s	IC MB88346BPFV
IC11	8-759-064-36	s	IC MB88346BPFV
IC12	8-759-064-36	s	IC MB88346BPFV
IC14	8-759-082-61	s	IC TC4W53FU
IC18	8-759-083-94	s	IC TC7W74FU
IC16	8-759-076-06	s	IC TL064CPW

(SH-55/55A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC17	8-759-523-02	s	IC TC74HC4053AFT(EL)
IC18	8-759-083-94	s	IC TC7W74FU
IC19	8-759-195-81	s	IC TC7S86FU
IC20	8-759-058-58	s	IC TC7S04FU(TE85R)
IC21	8-759-082-58	s	IC TC7W08FU
IC23	8-759-147-84	s	IC CXD8072Q
L1	1-412-029-11	s	CHIP, INDUCTOR 10uH
L2	1-412-029-11	s	CHIP, INDUCTOR 10uH
L3	1-412-029-11	s	CHIP, INDUCTOR 10uH
L7	1-412-029-11	s	CHIP, INDUCTOR 10uH
L8	1-412-029-11	s	CHIP, INDUCTOR 10uH
Q1	8-729-117-32	s	TRANSISTOR 2SC4177
Q2	8-729-117-32	s	TRANSISTOR 2SC4177
Q3	8-729-117-32	s	TRANSISTOR 2SC4177
Q4	8-729-117-32	s	TRANSISTOR 2SC4177
Q5	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q6	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q7	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q8	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q9	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q10	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q11	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q12	8-729-117-32	s	TRANSISTOR 2SC4177
Q13	8-729-117-32	s	TRANSISTOR 2SC4177
Q14	8-729-117-32	s	TRANSISTOR 2SC4177
Q15	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q16	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q17	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q18	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q19	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q20	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q21	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q22	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q23	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
R1	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R2	1-218-747-11	s	METAL 200K 0.50% 1/16W
R3	1-218-752-11	s	METAL 330K 0.50% 1/16W
R4	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R6	1-218-737-11	s	CHIP,METAL 75K 0.50% 1/16W
R7	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R8	1-218-720-11	s	CHIP, METAL 15K 0.50% 1/16W
R9	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R10	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R11	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R12	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R13	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R14	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R15	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R16	1-216-853-11	s	CHIP, METAL 470K 5% 1/16W
R17	1-216-861-11	s	METAL 2.2M 5% 1/16W
R18	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R19	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R20	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R21	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R22	1-218-728-11	s	METAL 33K 0.50% 1/16W
R23	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R24	1-218-728-11	s	METAL 33K 0.50% 1/16W
R25	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W

(SH-55/55A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R26	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R27	1-218-728-11	s	METAL 33K 0.50% 1/16W
R28	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R29	1-218-728-11	s	METAL 33K 0.50% 1/16W
R30	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R31	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R32	1-218-728-11	s	METAL 33K 0.50% 1/16W
R33	1-218-728-11	s	METAL 33K 0.50% 1/16W
R38	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R39	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R40	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R41	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R42	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R43	1-218-752-11	s	METAL 330K 0.50% 1/16W
R44	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R45	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R46	1-218-728-11	s	METAL 33K 0.50% 1/16W
R47	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R48	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R49	1-218-728-11	s	METAL 33K 0.50% 1/16W
R50	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R51	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R52	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R53	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R54	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R55	1-218-752-11	s	METAL 330K 0.50% 1/16W
R56	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R57	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R59	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R60	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R62	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R63	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R64	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R65	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R66	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R67	1-218-752-11	s	METAL 330K 0.50% 1/16W
R68	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R69	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R71	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R72	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R98	1-216-855-11	s	METAL, CHIP 680K 5% 1/16W
R99	1-216-856-11	s	METAL, CHIP 820K 5% 1/16W
R100	1-216-854-11	s	METAL, CHIP 560K 5% 1/16W
R101	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R102	1-216-863-11	s	METAL 3.3M 5% 1/16W
R103	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R104	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R105	1-216-863-11	s	METAL 3.3M 5% 1/16W
R106	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R107	1-216-853-11	s	CHIP, METAL 470K 5% 1/16W
R108	1-216-863-11	s	METAL 3.3M 5% 1/16W
R109	1-218-748-11	s	CHIP, METAL 220K 0.50% 1/16W
R110	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R111	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R112	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R116	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R117	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R118	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R119	1-218-704-11	s	METAL 3.3K 0.50% 1/16W

(SH-55/55A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R120	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R121	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R122	1-218-712-11	s	CHIP,METAL 6.8K 0.50% 1/16W
R123	1-218-712-11	s	CHIP,METAL 6.8K 0.50% 1/16W
R124	1-218-712-11	s	CHIP,METAL 6.8K 0.50% 1/16W
R125	1-218-644-11	s	METAL 10 0.50% 1/16W
R126	1-218-644-11	s	METAL 10 0.50% 1/16W
R127	1-218-644-11	s	METAL 10 0.50% 1/16W
R128	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R129	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R130	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R131	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R133	1-218-728-11	s	METAL 33K 0.50% 1/16W
R134	1-218-728-11	s	METAL 33K 0.50% 1/16W
R135	1-218-728-11	s	METAL 33K 0.50% 1/16W
R136	1-218-721-11	s	CHIP, METAL 16K 0.50% 1/16W (for SH-55 board)
R137	1-218-721-11	s	CHIP, METAL 16K 0.50% 1/16W (for SH-55 board)
R138	1-218-709-11	s	METAL 5.1K 0.50% 1/16W (for SH-55 board)

TG-193 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8317-777-A	o	MOUNTED CIRCUIT BOARD, TG-193A (for OHB-750A)
1pc	A-8317-786-A	o	MOUNTED CIRCUIT BOARD, TG-193P (for OHB-750AP)
1pc	A-8317-797-A	o	MOUNTED CIRCUIT BOARD, TG-193WA (for OHB-750WSA)
1pc	A-8317-802-A	o	MOUNTED CIRCUIT BOARD, TG-193WP (for OHB-750WSAP)
1pc	A-8318-357-A	o	MOUNTED CIRCUIT BOARD, TG-193 (for OHB-730)
1pc	A-8318-365-A	o	MOUNTED CIRCUIT BOARD, TG-193E (for OHB-730P)
1pc	A-8318-377-A	o	MOUNTED CIRCUIT BOARD, TG-193W (for OHB-730WS)
1pc	A-8318-384-A	o	MOUNTED CIRCUIT BOARD, TG-193WE (for OHB-730WSP)
C1	1-104-913-11	s	CHIP, TANTALUM 10uF 20% 16V
C2	1-115-781-11	s	ELECT 220uF 20% 25V
C3	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C4	1-128-391-11	s	ELECT 330uF 20% 6.3V
C5	1-128-416-11	s	ELECT 100uF 20% 16V
C6	1-135-212-21	s	CHIP, TANTALUM 2.2uF 10% 35V
C7	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C8	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C9	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C10	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C11	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C12	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C13	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C14	1-115-781-11	s	ELECT 220uF 20% 25V
C15	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C16	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C17	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C18	1-135-212-21	s	CHIP, TANTALUM 2.2uF 10% 35V
C19	1-115-758-11	s	ELECT 470uF 20% 16V
C20	1-107-885-11	s	ELECT 3300uF 20% 16V
C21	1-107-690-11	s	TANTALUM 6.8uF 20% 35V
C22	1-135-212-21	s	CHIP, TANTALUM 2.2uF 10% 35V
C23	1-135-212-21	s	CHIP, TANTALUM 2.2uF 10% 35V
C24	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C25	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C26	1-104-919-11	s	TANTALUM, CHIP 10uF 20% 25V
C27	1-104-913-11	s	CHIP, TANTALUM 10uF 20% 16V
C28	1-162-927-11	s	CHIP, CERAMIC 100PF 5% 50V
C29	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C30	1-107-910-11	s	ELECT 100uF 20% 35V
C31	1-107-689-21	s	TANTAL 1uF 20% 35V
C32	1-107-689-21	s	TANTAL 1uF 20% 35V
C33	1-107-689-21	s	TANTAL 1uF 20% 35V
C34	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C35	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C36	1-165-176-11	s	CERAMIC, CHIP 0.047uF 10% 16V
C37	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C38	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C39	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C40	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C43	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C44	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V

(TG-193 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C45	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C46	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C47	1-162-964-11	s	CHIP, CERAMIC 0.001uF 10% 50V
C48	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C49	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C50	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C51	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C52	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C53	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C54	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C55	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C56	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C57	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C58	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C59	1-104-914-11	s	TANTAL 22uF 20% 16V
C60	1-104-914-11	s	TANTAL 22uF 20% 16V
C61	1-104-914-11	s	TANTAL 22uF 20% 16V
C62	1-104-914-11	s	TANTAL 22uF 20% 16V
C63	1-104-914-11	s	TANTAL 22uF 20% 16V
C64	1-104-914-11	s	TANTAL 22uF 20% 16V
C65	1-104-919-11	s	TANTALUM, CHIP 10uF 20% 25V
C66	1-104-919-11	s	TANTALUM, CHIP 10uF 20% 25V
C67	1-104-919-11	s	TANTALUM, CHIP 10uF 20% 25V
C70	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C71	1-128-416-11	s	ELECT 100uF 20% 16V
C73	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C74	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C75	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C77	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C78	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C84	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C85	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C86	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C87	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C88	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C89	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C90	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C91	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C92	1-104-919-11	s	TANTALUM, CHIP 10uF 20% 25V
C93	1-162-957-11	s	CERAMIC, 220PF 5PF 50V
C94	1-162-957-11	s	CERAMIC, 220PF 5PF 50V
CN1	1-580-564-11	o	PIN, CONNECTOR (PC BOARD) 18P
CN2	1-691-906-31	s	CONNECTOR, BOARD TO BOARD 16P
CN3	1-691-906-31	s	CONNECTOR, BOARD TO BOARD 16P
CN4	1-691-906-31	s	CONNECTOR, BOARD TO BOARD 16P
CN5	1-568-331-11	s	CONNECTOR, BOARD TO BOARD 10P
CN6	1-568-332-51	s	CONNECTOR, BOARD TO BOARD 12P
CN7	1-695-953-21	s	CONNECTOR, BOARD TO BOARD 30P
CN8	1-568-360-21	s	CONNECTOR, BOARD TO BOARD 22P
CN9	1-506-468-11	o	CONNECTOR, 3P, MALE
CP1	1-577-202-11	s	OSCILLATOR, CRYSTAL 36MHz
D1	8-719-157-54	s	DIODE RD12M-B
D2	8-719-029-63	s	DIODE RD4.3UH-T1
D3	8-719-041-68	s	DIODE RD3.3UH(1)-T1
D4	8-719-041-68	s	DIODE RD3.3UH(1)-T1
D5	8-759-274-67	s	IC LM4040BIM3X-5.0
D6	8-719-820-41	s	DIODE 1SS302

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Ref. No. or Q'ty	Part No.	SP	Description
D7	8-719-157-54	s	DIODE RD12M-B
D8	8-719-157-54	s	DIODE RD12M-B
D9	8-719-024-81	s	DIODE 1SS300-TE85L
D10	8-719-024-81	s	DIODE 1SS300-TE85L
D11	8-719-024-81	s	DIODE 1SS300-TE85L
D12	8-719-024-81	s	DIODE 1SS300-TE85L
D13	8-719-024-81	s	DIODE 1SS300-TE85L
D14	8-719-404-35	s	DIODE MA141WK
D15	8-719-024-81	s	DIODE 1SS300-TE85L
IC1	8-759-979-69	s	IC TSC426C0A
IC2	8-759-287-54	s	IC TL084CPW-E20
IC3	8-759-076-06	s	IC TL064CPW
IC4	8-759-196-96	s	IC TC7SH08FU-TE85R
IC5	8-759-058-62	s	IC TC7S08FU(TE85R)
IC6	8-759-295-09	s	IC TLC2932IPW
IC8	8-759-523-81	s	IC TC74VHC08FT(EL)
IC10	8-759-058-64	s	IC TC7S32FU(TE85R)
IC11	8-759-058-54	s	IC TC7S00FU(TE85R)
IC13	8-759-082-58	s	IC TC7W08FU
IC14	8-759-523-81	s	IC TC74VHC08FT(EL)
IC15	8-759-009-22	s	IC MC14094BF
IC18	8-759-172-33	s	IC UPD16502GS(1)
IC19	8-759-172-33	s	IC UPD16502GS(1) (for OHB-750A/750AP/750WSA/750WSAP)
IC20	8-759-172-33	s	IC UPD16502GS(1)
IC21	8-759-172-33	s	IC UPD16502GS(1) (for OHB-750A/750AP/750WSA/750WSAP)
IC22	8-759-172-33	s	IC UPD16502GS(1)
IC23	8-759-172-33	s	IC UPD16502GS(1) (for OHB-750A/750AP/750WSA/750WSAP)
IC24	8-759-058-62	s	IC TC7S08FU(TE85R)
IC25	8-759-058-62	s	IC TC7S08FU(TE85R)
IC26	8-759-058-62	s	IC TC7S08FU(TE85R)
IC27	8-759-260-55	s	IC TLC272CPW-E05
IC28	8-759-082-58	s	IC TC7W08FU
IC29	8-759-082-57	s	IC TC7W04FU
L1	1-412-029-11	s	CHIP, INDUCTOR 10uH
L2	1-412-029-11	s	CHIP, INDUCTOR 10uH
L3	1-412-029-11	s	CHIP, INDUCTOR 10uH
L4	1-412-029-11	s	CHIP, INDUCTOR 10uH
L5	1-412-029-11	s	CHIP, INDUCTOR 10uH
L6	1-410-679-31	s	INDUCTOR 270UH
L7	1-412-029-11	s	CHIP, INDUCTOR 10uH
L8	1-412-029-11	s	CHIP, INDUCTOR 10uH
L9	1-412-029-11	s	CHIP, INDUCTOR 10uH
L10	1-412-029-11	s	CHIP, INDUCTOR 10uH
L11	1-412-029-11	s	CHIP, INDUCTOR 10uH
Q1	8-729-101-07	s	TRANSISTOR 2SB798
Q2	8-729-101-07	s	TRANSISTOR 2SB798
Q3	8-729-101-07	s	TRANSISTOR 2SB798
Q4	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q5	8-729-101-07	s	TRANSISTOR 2SB798
Q6	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q7	8-729-024-56	s	TRANSISTOR 2SA1808
Q8	8-729-421-71	s	TRANSISTOR 2SK620
Q9	8-729-117-32	s	TRANSISTOR 2SC4177
Q10	8-729-427-83	s	TRANSISTOR XP6501
Q11	8-729-427-83	s	TRANSISTOR XP6501

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Ref. No. or Q'ty	Part No.	SP	Description
Q12	8-729-427-83	s	TRANSISTOR XP6501
R1	1-218-728-11	s	METAL 33K 0.50% 1/16W
R2	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W (for OHB-730/730P/730WS/730WSP)
R4	1-218-723-11	s	CHIP, METAL 20K 0.50% 1/16W
R5	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R6	1-218-720-11	s	CHIP, METAL 15K 0.50% 1/16W
R7	1-218-737-11	s	CHIP,METAL 75K 0.50% 1/16W
R8	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R9	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R10	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R11	1-218-723-11	s	CHIP, METAL 20K 0.50% 1/16W
R12	1-218-718-11	s	CHIP,METAL 12K 0.50% 1/16W
R13	1-218-644-11	s	METAL 10 0.50% 1/16W
R14	1-218-723-11	s	CHIP, METAL 20K 0.50% 1/16W
R15	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R16	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R17	1-218-720-11	s	CHIP, METAL 15K 0.50% 1/16W
R18	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R19	1-218-644-11	s	METAL 10 0.50% 1/16W
R20	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R21	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R22	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R23	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R24	1-218-696-11	s	CHIP,METAL 1.5K 0.50% 1/16W
R25	1-218-648-11	s	METAL 15 0.50% 1/16W
R26	1-218-648-11	s	METAL 15 0.50% 1/16W
R27	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R28	1-218-746-11	s	METAL 180K 0.50% 1/16W
R29	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R30	1-218-722-11	s	CHIP, METAL 18K 0.50% 1/16W
R31	1-218-750-11	s	METAL 270K 0.50% 1/16W
R32	1-218-722-11	s	CHIP, METAL 18K 0.50% 1/16W
R33	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R34	1-218-750-11	s	METAL 270K 0.50% 1/16W
R35	1-218-722-11	s	CHIP, METAL 18K 0.50% 1/16W
R36	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R37	1-218-750-11	s	METAL 270K 0.50% 1/16W
R38	1-218-722-11	s	CHIP, METAL 18K 0.50% 1/16W
R39	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R40	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R41	1-218-644-11	s	METAL 10 0.50% 1/16W
R42	1-218-728-11	s	METAL 33K 0.50% 1/16W
R43	1-218-728-11	s	METAL 33K 0.50% 1/16W
R44	1-218-728-11	s	METAL 33K 0.50% 1/16W
R45	1-218-644-11	s	METAL 10 0.50% 1/16W
R46	1-218-644-11	s	METAL 10 0.50% 1/16W
R47	1-218-644-11	s	METAL 10 0.50% 1/16W
R48	1-218-644-11	s	METAL 10 0.50% 1/16W
R49	1-218-644-11	s	METAL 10 0.50% 1/16W
R50	1-218-644-11	s	METAL 10 0.50% 1/16W
R51	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R52	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R53	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R54	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R57	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R60	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R61	1-216-864-11	s	CHIP, METAL 0 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R62	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R63	1-216-864-11	s	CHIP, METAL 0 5% 1/16W (for OHB-750A/750WSA/730/730WS)
R64	1-216-864-11	s	CHIP, METAL 0 5% 1/16W (for OHB-750AP/750WSAP/730P/730WSP)
R65	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R66	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R67	1-218-644-11	s	METAL 10 0.50% 1/16W
R68	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R69	1-218-644-11	s	METAL 10 0.50% 1/16W
R70	1-218-644-11	s	METAL 10 0.50% 1/16W
R71	1-218-644-11	s	METAL 10 0.50% 1/16W
R72	1-216-864-11	s	CHIP, METAL 0 5% 1/16W (for OHB-750A/750AP/750WSA/750WSAP)
R73	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R74	1-218-644-11	s	METAL 10 0.50% 1/16W
R75	1-218-644-11	s	METAL 10 0.50% 1/16W
R76	1-218-728-11	s	METAL 33K 0.50% 1/16W
R77	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R78	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R79	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R80	1-218-734-11	s	METAL, CHIP 56K 0.50% 1/16W
R81	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R82	1-218-644-11	s	METAL 10 0.50% 1/16W
R83	1-218-728-11	s	METAL 33K 0.50% 1/16W
R84	1-218-728-11	s	METAL 33K 0.50% 1/16W
R85	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R86	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W (for OHB-750WSA/750WSAP/730WS/730WSP)
R89	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R90	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R91	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R92	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R93	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R94	1-216-864-11	s	CHIP, METAL 0 5% 1/16W (for OHB-730/730P/730WS/730WSP)
R96	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R97	1-218-644-11	s	METAL 10 0.50% 1/16W
R98	1-218-644-11	s	METAL 10 0.50% 1/16W
R100	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
RV1	1-241-265-11	s	RES, ADJ, METALT 20K
RV2	1-241-265-11	s	RES, ADJ, METALT 20K
RV3	1-241-265-11	s	RES, ADJ, METALT 20K

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Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8317-779-A	o	MOUNTED CIRCUIT BOARD, TG-194
C1	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C2	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C3	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C4	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C5	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C6	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C7	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C8	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C9	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C10	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C11	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C12	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C13	1-162-911-11	s	CERAMIC, CHIP 6PF 50V
C14	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C15	1-162-964-11	s	CHIP, CERAMIC 0.001uF 10% 50V
C16	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C17	1-162-970-11	s	CHIP, CERAMIC 0.01uF 10% 25V
C18	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C19	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C22	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C23	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C24	1-113-642-11	s	CHIP,TANTALUM 47uF 20% 10V
C25	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C26	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C27	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C28	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C29	1-162-917-11	s	CHIP, CERAMIC 15PF 5% 50V
C30	1-162-917-11	s	CHIP, CERAMIC 15PF 5% 50V
C31	1-162-917-11	s	CHIP, CERAMIC 15PF 5% 50V
C32	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C33	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C34	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C35	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C36	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C37	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C38	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C39	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C40	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C41	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C42	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C43	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C44	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C45	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C46	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C47	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C48	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C49	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C50	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C51	1-162-917-11	s	CHIP, CERAMIC 15PF 5% 50V
C52	1-135-210-11	s	CHIP, TANTALUM 4.7uF 10% 10V
C53	1-135-181-21	s	TANTALUM, CHIP 4.7uF 10% 6.3V
C54	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C55	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C56	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C57	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C58	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C59	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V

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Ref. No. or Q'ty	Part No.	SP	Description
C60	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C61	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C62	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C63	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C64	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C65	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C66	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C67	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C68	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C69	1-113-642-11	s	CHIP,TANTALUM 47uF 20% 10V
CN2	1-568-357-11	o	CONNECTOR, 16P FEMALE
CN3	1-568-357-11	o	CONNECTOR, 16P FEMALE
CN4	1-568-357-11	o	CONNECTOR, 16P FEMALE
D1	8-719-820-41	s	DIODE 1SS302
D2	8-719-820-41	s	DIODE 1SS302
D4	8-719-059-59	s	DIODE MA3J74200LSO
D5	8-719-820-41	s	DIODE 1SS302
D6	8-719-820-41	s	DIODE 1SS302
D7	8-719-820-41	s	DIODE 1SS302
D8	8-719-820-41	s	DIODE 1SS302
D9	8-719-059-59	s	DIODE MA3J74200LSO
IC1	8-759-058-54	s	IC TC7S00FU(TE85R)
IC2	8-759-061-88	s	IC MAX454CSD
IC3	8-759-061-99	s	IC LM6365M
IC4	8-759-058-64	s	IC TC7S32FU(TE85R)
IC5	8-759-082-61	s	IC TC4W53FU
IC6	8-752-337-04	s	IC CXD1176Q
IC7	8-759-058-54	s	IC TC7S00FU(TE85R)
IC9	8-759-052-64	s	IC M6M80011AFP
IC10	8-759-058-55	s	IC TC7S02FU-TE85L
IC11	8-759-058-62	s	IC TC7S08FU(TE85R)
IC13	8-759-082-53	s	IC TLC274CPW
IC14	8-759-082-61	s	IC TC4W53FU
IC15	8-759-112-66	s	IC UPC812G2
IC16	8-759-058-64	s	IC TC7S32FU(TE85R)
IC17	8-759-058-62	s	IC TC7S08FU(TE85R)
IC19	8-759-058-62	s	IC TC7S08FU(TE85R)
IC20	8-759-050-39	s	IC SN74HC574APW-E20
IC22	8-759-276-00	s	IC TC7W139FU(TE12R)
IC23	8-759-523-02	s	IC TC74HC4053AFT(EL)
IC27	8-759-080-93	s	IC M6M80041FP
IC28	8-759-253-32	s	IC CXD8888R
IC29	8-759-049-56	s	IC SN74HC02APW-E05
IC30	8-759-058-62	s	IC TC7S08FU(TE85R)
IC31	8-759-058-62	s	IC TC7S08FU(TE85R)
IC32	8-752-385-18	s	IC CXK581000BTM-55LL
IC33	8-759-058-55	s	IC TC7S02FU-TE85L
IC34	8-759-049-80	s	IC SN74HC541APW-E05
IC35	8-759-049-78	s	IC SN74HC245APW-E05
IC36	8-759-058-54	s	IC TC7S00FU(TE85R)
IC37	8-759-277-63	s	IC TC7W14FU(TE12R)
IC38	8-759-058-54	s	IC TC7S00FU(TE85R)
IC39	8-759-082-58	s	IC TC7W08FU
IC40	8-759-049-96	s	IC SN74HC32APW-E20
IC41	8-759-523-02	s	IC TC74HC4053AFT(EL)
IC42	8-759-487-51	s	IC HN58C257AT10
IC44	8-759-050-06	s	IC SN74HC157APW

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Ref. No. or Q'ty	Part No.	SP	Description
IS12	1-540-224-11	o	SOCKET, IC
IS24	1-540-224-11	o	SOCKET, IC
L1	1-412-029-11	s	CHIP, INDUCTOR 10uH
L2	1-412-026-11	s	INDUCTOR CHIP 1uH
L3	1-412-031-11	s	INDUCTOR CHIP 47uH
L4	1-412-026-11	s	INDUCTOR CHIP 1uH
L5	1-412-026-11	s	INDUCTOR CHIP 1uH
L6	1-412-026-11	s	INDUCTOR CHIP 1uH
L7	1-412-026-11	s	INDUCTOR CHIP 1uH
Q1	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q2	8-729-026-32	s	TRANSISTOR XP6534
Q3	8-729-026-32	s	TRANSISTOR XP6534
Q4	8-729-117-32	s	TRANSISTOR 2SC4177
Q5	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q6	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q7	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q8	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q9	8-729-028-91	s	TRANSISTOR DTA144EUA-T106
R1	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R2	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R3	1-218-728-11	s	METAL 33K 0.50% 1/16W
R4	1-218-728-11	s	METAL 33K 0.50% 1/16W
R5	1-218-728-11	s	METAL 33K 0.50% 1/16W
R6	1-216-791-11	s	CHIP, METAL 3.3 5% 1/16W
R7	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R8	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R9	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R10	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R11	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R12	1-218-680-11	s	METAL 330 0.50% 1/16W
R13	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R14	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R15	1-218-672-11	s	CHIP, METAL 150 0.50% 1/16W
R16	1-218-701-11	s	METAL 2.4K 0.50% 1/16W
R17	1-218-656-11	s	CHIP,METAL 33 0.50% 1/16W
R18	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R19	1-216-791-11	s	CHIP, METAL 3.3 5% 1/16W
R20	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R21	1-218-686-11	s	METAL 560 0.50% 1/16W
R22	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R23	1-216-791-11	s	CHIP, METAL 3.3 5% 1/16W
R24	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R25	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R26	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R27	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R28	1-218-688-11	s	METAL 680 0.50% 1/16W
R29	1-218-688-11	s	METAL 680 0.50% 1/16W
R30	1-218-688-11	s	METAL 680 0.50% 1/16W
R31	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R32	1-218-644-11	s	METAL 10 0.50% 1/16W
R33	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R34	1-218-718-11	s	CHIP,METAL 12K 0.50% 1/16W
R35	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R36	1-218-726-11	s	CHIP,METAL 27K 0.50% 1/16W
R37	1-218-727-11	s	METAL 30K 0.50% 1/16W
R38	1-218-696-11	s	CHIP,METAL 1.5K 0.50% 1/16W
R39	1-218-721-11	s	CHIP, METAL 16K 0.50% 1/16W
R40	1-218-706-11	s	METAL 3.9K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R41	1-218-711-11	s	METAL 6.2K 0.50% 1/16W
R42	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R43	1-218-719-11	s	CHIP, METAL 13K 0.50% 1/16W
R44	1-218-709-11	s	METAL 5.1K 0.50% 1/16W
R45	1-218-702-11	s	CHIP, METAL 2.7K 0.50% 1/16W
R46	1-218-702-11	s	CHIP, METAL 2.7K 0.50% 1/16W
R47	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R48	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R49	1-218-687-11	s	CHIP,METAL 620 0.50% 1/16W
R50	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R51	1-218-723-11	s	CHIP, METAL 20K 0.50% 1/16W
R52	1-218-718-11	s	CHIP,METAL 12K 0.50% 1/16W
R53	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R54	1-218-732-11	s	CHIP, METAL 47K 0.50% 1/16W
R55	1-218-732-11	s	CHIP, METAL 47K 0.50% 1/16W
R56	1-218-701-11	s	METAL 2.4K 0.50% 1/16W
R57	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R58	1-218-732-11	s	CHIP, METAL 47K 0.50% 1/16W
R59	1-218-732-11	s	CHIP, METAL 47K 0.50% 1/16W
R60	1-218-732-11	s	CHIP, METAL 47K 0.50% 1/16W
R61	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R62	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R65	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R66	1-218-692-11	s	METAL 1K 0.50% 1/16W
R67	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R68	1-218-692-11	s	METAL 1K 0.50% 1/16W
R69	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R70	1-218-692-11	s	METAL 1K 0.50% 1/16W
R71	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R72	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R73	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R74	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R75	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R76	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R77	1-218-732-11	s	CHIP, METAL 47K 0.50% 1/16W
R78	1-218-732-11	s	CHIP, METAL 47K 0.50% 1/16W
R79	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R80	1-218-726-11	s	CHIP,METAL 27K 0.50% 1/16W
R81	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R82	1-218-707-11	s	CHIP, METAL 4.3K 0.50% 1/16W
R83	1-218-707-11	s	CHIP, METAL 4.3K 0.50% 1/16W
R84	1-218-707-11	s	CHIP, METAL 4.3K 0.50% 1/16W
R85	1-218-707-11	s	CHIP, METAL 4.3K 0.50% 1/16W
R86	1-218-707-11	s	CHIP, METAL 4.3K 0.50% 1/16W
R87	1-218-707-11	s	CHIP, METAL 4.3K 0.50% 1/16W
R88	1-218-716-11	s	METAL 10K 0.50% 1/16W
R89	1-218-716-11	s	METAL 10K 0.50% 1/16W
R90	1-218-716-11	s	METAL 10K 0.50% 1/16W
R91	1-218-668-11	s	CHIP,METAL 100 0.50% 1/16W
R92	1-218-668-11	s	CHIP,METAL 100 0.50% 1/16W
R93	1-218-668-11	s	CHIP,METAL 100 0.50% 1/16W
R94	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R95	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R96	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
RB1	1-239-419-11	s	RESISTOR BLOCK, CHIP 470
RB2	1-239-419-11	s	RESISTOR BLOCK, CHIP 470
RB3	1-239-419-11	s	RESISTOR BLOCK, CHIP 470
RB4	1-239-419-11	s	RESISTOR BLOCK, CHIP 470
RB5	1-239-419-11	s	RESISTOR BLOCK, CHIP 470

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Ref. No. or Q'ty	Part No.	SP	Description
RB6	1-239-419-11	s	RESISTOR BLOCK, CHIP 470
RB7	1-239-428-11	s	NETWORK RESISTOR (CHIP) 3.3K
RB8	1-239-308-11	s	RESISTOR ARRAY, CHIP 47K
RB9	1-239-308-11	s	RESISTOR ARRAY, CHIP 47K
RB10	1-239-308-11	s	RESISTOR ARRAY, CHIP 47K
RB11	1-239-308-11	s	RESISTOR ARRAY, CHIP 47K
RB12	1-239-308-11	s	RESISTOR ARRAY, CHIP 47K
RB13	1-239-389-11	s	RESISTOR BLOCK, CHIP 47KX4
RB14	1-239-308-11	s	RESISTOR ARRAY, CHIP 47K
RV1	1-237-038-11	s	RES, ADJ, METAL 50K
RV2	1-237-033-11	s	CHIP, RES, ADJ METAL 1K
S1	1-572-005-11	s	SWITCH, TACTILE
S2	1-572-005-11	s	SWITCH, TACTILE
S3	1-571-304-11	s	SWITCH, CHIP

VA-157 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8263-992-A	o	MOUNTED CIRCUIT BOARD, VA-157
C1	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C2	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C3	1-104-913-11	s	CHIP, TANTALUM 10uF 20% 16V
C5	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C7	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C8	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C9	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C10	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C12	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C13	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C14	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C15	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C16	1-164-739-11	s	CHIP,CERAMIC 560PF 5% 50V
C17	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C18	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C22	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C23	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C24	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C25	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C26	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C112	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C113	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C114	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C115	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C116	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C117	1-162-912-11	s	CERAMIC 7PF 0.5PF 50V
C118	1-162-917-11	s	CHIP, CERAMIC 15PF 5% 50V
C119	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C120	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C121	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C122	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C123	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C124	1-104-752-11	s	CHIP, TANTALUM 33uF 20% 6.3V
C125	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C126	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C127	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C128	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C129	1-128-391-11	s	ELECT 330uF 20% 6.3V
C130	1-104-913-11	s	CHIP, TANTALUM 10uF 20% 16V
C131	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C132	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C133	1-104-559-11	s	CHIP, FILM 0.047uF 5% 16V
C135	1-104-913-11	s	CHIP, TANTALUM 10uF 20% 16V
C136	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C137	1-128-394-11	s	ELECT 220uF 20% 10V
C138	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C139	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C140	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C141	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C142	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C143	1-128-391-11	s	ELECT 330uF 20% 6.3V
C144	1-104-752-11	s	CHIP, TANTALUM 33uF 20% 6.3V
C145	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C146	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C147	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C149	1-162-975-11	s	CHIP, CERAMIC 24PF 5% 50V
C150	1-162-916-11	s	CERAMIC, CHIP 12PF 5% 50V

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Ref. No. or Q'ty	Part No.	SP	Description
C212	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C213	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C214	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C215	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C216	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C217	1-162-912-11	s	CERAMIC 7PF 0.5PF 50V
C218	1-162-917-11	s	CHIP, CERAMIC 15PF 5% 50V
C219	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C220	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C221	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C222	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C223	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C224	1-104-752-11	s	CHIP, TANTALUM 33uF 20% 6.3V
C225	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C226	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C227	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C228	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C229	1-128-391-11	s	ELECT 330uF 20% 6.3V
C230	1-104-913-11	s	CHIP, TANTALUM 10uF 20% 16V
C231	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C232	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C233	1-104-559-11	s	CHIP, FILM 0.047uF 5% 16V
C235	1-104-913-11	s	CHIP, TANTALUM 10uF 20% 16V
C236	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C237	1-128-394-11	s	ELECT 220uF 20% 10V
C238	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C239	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C240	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C241	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C242	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C243	1-128-391-11	s	ELECT 330uF 20% 6.3V
C244	1-104-752-11	s	CHIP, TANTALUM 33uF 20% 6.3V
C245	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C246	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C247	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C249	1-162-975-11	s	CHIP, CERAMIC 24PF 5% 50V
C250	1-162-916-11	s	CERAMIC, CHIP 12PF 5% 50V
C312	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C313	1-135-179-21	s	CHIP, TANTALUM 2.2uF 10% 16V
C314	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C315	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C316	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C317	1-162-912-11	s	CERAMIC 7PF 0.5PF 50V
C318	1-162-917-11	s	CHIP, CERAMIC 15PF 5% 50V
C319	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C320	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C321	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C322	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C323	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C324	1-104-752-11	s	CHIP, TANTALUM 33uF 20% 6.3V
C325	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C326	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C327	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C328	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C329	1-128-391-11	s	ELECT 330uF 20% 6.3V
C330	1-104-913-11	s	CHIP, TANTALUM 10uF 20% 16V
C331	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C332	1-113-682-11	s	CHIP,TANTALUM 33uF 20% 10V
C333	1-104-559-11	s	CHIP, FILM 0.047uF 5% 16V

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Ref. No. or Q'ty	Part No.	SP	Description
C335	1-104-913-11	s	CHIP, TANTALUM 10uF 20% 16V
C336	1-104-852-11	s	CHIP, TANTALUM 22uF 20% 10V
C337	1-128-394-11	s	ELECT 220uF 20% 10V
C338	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C339	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C340	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C341	1-162-915-11	s	CERAMIC, CHIP 10PF 5PF 50V
C342	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C343	1-128-391-11	s	ELECT 330uF 20% 6.3V
C344	1-104-752-11	s	CHIP, TANTALUM 33uF 20% 6.3V
C345	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C346	1-104-851-11	s	CHIP, TANTALUM 10uF 20% 10V
C347	1-164-156-11	s	CHIP, CERAMIC 0.1uF 25V
C349	1-162-975-11	s	CHIP, CERAMIC 24PF 5% 50V
C350	1-162-916-11	s	CERAMIC, CHIP 12PF 5% 50V
CN1	1-750-933-21	o	PIN, CONNECTOR (PC BOARD) 12P
CN2	1-568-363-11	s	CONNECTOR, BOARD TO BOARD 10P
CN3	1-568-364-21	s	CONNECTOR, BOARD TO BOARD 12P
CN4	1-568-363-11	s	CONNECTOR, BOARD TO BOARD 10P
CN5	1-569-607-21	o	CONNECTOR, BOARD TO BOARD 24P
CN6	1-750-635-21	o	PIN, CONNECTOR (PC BOARD) 5P
CN7	1-750-635-21	o	PIN, CONNECTOR (PC BOARD) 5P
CN8	1-750-635-21	o	PIN, CONNECTOR (PC BOARD) 5P
CN9	1-695-480-21	o	PIN, CONNECTOR (PC BOARD) 2P
D1	8-719-041-68	s	DIODE RD3.3UH(1)-T1
D2	8-719-041-68	s	DIODE RD3.3UH(1)-T1
D3	8-759-274-67	s	IC LM4040BIM3X-5.0
D4	8-719-041-68	s	DIODE RD3.3UH(1)-T1
FL100	1-409-501-11	s	FILTER, TRAP
FL200	1-409-501-11	s	FILTER, TRAP
FL300	1-409-501-11	s	FILTER, TRAP
IC1	8-759-082-53	s	IC TLC274CPW
IC2	8-759-058-55	s	IC TC7S02FU-TE85L
IC5	8-759-523-02	s	IC TC74HC4053AFT(EL)
IC101	8-759-260-55	s	IC TLC272CPW-E05
IC102	8-759-082-61	s	IC TC4W53FU
IC103	8-759-058-62	s	IC TC7S08FU(TE85R)
IC201	8-759-260-55	s	IC TLC272CPW-E05
IC202	8-759-082-61	s	IC TC4W53FU
IC203	8-759-058-62	s	IC TC7S08FU(TE85R)
IC301	8-759-260-55	s	IC TLC272CPW-E05
IC302	8-759-082-61	s	IC TC4W53FU
IC303	8-759-058-62	s	IC TC7S08FU(TE85R)
L1	1-412-029-11	s	CHIP, INDUCTOR 10uH
L2	1-412-029-11	s	CHIP, INDUCTOR 10uH
L3	1-412-029-11	s	CHIP, INDUCTOR 10uH
L4	1-412-029-11	s	CHIP, INDUCTOR 10uH
L5	1-412-029-11	s	CHIP, INDUCTOR 10uH
Q1	8-729-101-07	s	TRANSISTOR 2SB798
Q2	8-729-101-07	s	TRANSISTOR 2SB798
Q3	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q4	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q5	8-729-029-14	s	TRANSISTOR DTC144EUA-T106
Q6	8-729-427-80	s	TRANSISTOR XP6401
Q8	8-729-427-80	s	TRANSISTOR XP6401
Q9	8-729-427-83	s	TRANSISTOR XP6501
Q100	8-729-117-32	s	TRANSISTOR 2SC4177
Q109	8-729-821-88	s	TRANSISTOR 2SK1332-3

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Ref. No. or Q'ty	Part No.	SP	Description
Q110	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q111	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q112	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q113	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q114	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q115	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q116	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q117	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q118	8-729-024-56	s	TRANSISTOR 2SA1808
Q119	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q121	8-729-026-32	s	TRANSISTOR XP6534
Q122	8-729-024-56	s	TRANSISTOR 2SA1808
Q123	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q124	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q125	8-729-024-56	s	TRANSISTOR 2SA1808
Q126	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q127	8-729-026-32	s	TRANSISTOR XP6534
Q128	8-729-026-32	s	TRANSISTOR XP6534
Q129	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q130	8-729-026-32	s	TRANSISTOR XP6534
Q131	8-729-026-31	s	TRANSISTOR XP6435
Q132	8-729-026-31	s	TRANSISTOR XP6435
Q133	8-729-026-32	s	TRANSISTOR XP6534
Q134	8-729-026-31	s	TRANSISTOR XP6435
Q200	8-729-117-32	s	TRANSISTOR 2SC4177
Q209	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q210	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q211	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q212	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q213	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q214	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q215	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q216	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q217	8-729-024-58	s	TRANSISTOR 2SA1688-5
Q218	8-729-024-56	s	TRANSISTOR 2SA1808
Q219	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q221	8-729-026-32	s	TRANSISTOR XP6534
Q222	8-729-024-56	s	TRANSISTOR 2SA1808
Q223	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q224	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q225	8-729-024-56	s	TRANSISTOR 2SA1808
Q226	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q227	8-729-026-32	s	TRANSISTOR XP6534
Q228	8-729-026-32	s	TRANSISTOR XP6534
Q229	8-729-026-32	s	TRANSISTOR XP6534
Q230	8-729-026-31	s	TRANSISTOR XP6435
Q231	8-729-026-31	s	TRANSISTOR XP6435
Q232	8-729-026-32	s	TRANSISTOR XP6534
Q233	8-729-026-31	s	TRANSISTOR XP6435
Q300	8-729-117-32	s	TRANSISTOR 2SC4177
Q309	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q310	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q311	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q312	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q313	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q314	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q315	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q316	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q317	8-729-024-58	s	TRANSISTOR 2SA1688-5

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Ref. No. or Q'ty	Part No.	SP	Description
Q318	8-729-024-56	s	TRANSISTOR 2SA1808
Q319	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q321	8-729-026-32	s	TRANSISTOR XP6534
Q322	8-729-024-56	s	TRANSISTOR 2SA1808
Q323	8-729-230-38	s	TRANSISTOR 2SC4215Y
Q324	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q325	8-729-024-56	s	TRANSISTOR 2SA1808
Q326	8-729-144-07	s	TRANSISTOR 2SC4184-T43
Q327	8-729-026-32	s	TRANSISTOR XP6534
Q328	8-729-026-32	s	TRANSISTOR XP6534
Q329	8-729-821-88	s	TRANSISTOR 2SK1332-3
Q330	8-729-026-32	s	TRANSISTOR XP6534
Q331	8-729-026-31	s	TRANSISTOR XP6435
Q332	8-729-026-31	s	TRANSISTOR XP6435
Q333	8-729-026-32	s	TRANSISTOR XP6534
Q334	8-729-026-31	s	TRANSISTOR XP6435
R1	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R2	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R3	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R4	1-218-723-11	s	CHIP, METAL 20K 0.50% 1/16W
R5	1-218-723-11	s	CHIP, METAL 20K 0.50% 1/16W
R6	1-218-718-11	s	CHIP,METAL 12K 0.50% 1/16W
R7	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R8	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R9	1-218-701-11	s	METAL 2.4K 0.50% 1/16W
R10	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R11	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R12	1-218-732-11	s	CHIP, METAL 47K 0.50% 1/16W
R13	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R14	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R15	1-218-736-11	s	METAL 68K 0.50% 1/16W
R16	1-218-718-11	s	CHIP,METAL 12K 0.50% 1/16W
R17	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R18	1-218-723-11	s	CHIP, METAL 20K 0.50% 1/16W
R32	1-218-722-11	s	CHIP, METAL 18K 0.50% 1/16W
R33	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R34	1-218-730-11	s	CHIP, METAL 39K 0.50% 1/16W
R35	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R36	1-218-652-11	s	CHIP,METAL 22 0.50% 1/16W
R37	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R38	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R39	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R100	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R101	1-218-715-11	s	CHIP, METAL 9.1K 0.50% 1/16W
R102	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R103	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R104	1-218-686-11	s	METAL 560 0.50% 1/16W
R105	1-218-736-11	s	METAL 68K 0.50% 1/16W
R106	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R107	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R108	1-218-688-11	s	METAL 680 0.50% 1/16W
R109	1-218-702-11	s	CHIP, METAL 2.7K 0.50% 1/16W
R110	1-218-721-11	s	CHIP, METAL 16K 0.50% 1/16W
R111	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R112	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R113	1-218-695-11	s	METAL 1.3K 0.50% 1/16W
R114	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R115	1-218-712-11	s	CHIP,METAL 6.8K 0.50% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R116	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R117	1-218-694-11	s	CHIP, METAL 1.2K 0.50% 1/16W
R118	1-218-701-11	s	METAL 2.4K 0.50% 1/16W
R119	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R120	1-218-728-11	s	METAL 33K 0.50% 1/16W
R121	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R122	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R123	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R124	1-218-685-11	s	METAL 510 0.50% 1/16W
R125	1-218-690-11	s	CHIP,METAL 820 0.50% 1/16W
R126	1-218-696-11	s	CHIP,METAL 1.5K 0.50% 1/16W
R127	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R128	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R129	1-218-685-11	s	METAL 510 0.50% 1/16W
R130	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R131	1-218-728-11	s	METAL 33K 0.50% 1/16W
R132	1-218-728-11	s	METAL 33K 0.50% 1/16W
R133	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R134	1-218-711-11	s	METAL 6.2K 0.50% 1/16W
R135	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R136	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R137	1-218-707-11	s	CHIP, METAL 4.3K 0.50% 1/16W
R138	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R139	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R140	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R141	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R142	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R143	1-218-691-11	s	CHIP,METAL 910 0.50% 1/16W
R144	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R145	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R146	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R147	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R148	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R149	1-218-670-11	s	CHIP, METAL 120 0.50% 1/16W
R150	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R151	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R152	1-218-702-11	s	CHIP, METAL 2.7K 0.50% 1/16W
R153	1-218-736-11	s	METAL 68K 0.50% 1/16W
R154	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R155	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R157	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R158	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R159	1-218-686-11	s	METAL 560 0.50% 1/16W
R162	1-218-696-11	s	CHIP,METAL 1.5K 0.50% 1/16W
R163	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R164	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R165	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R166	1-218-718-11	s	CHIP,METAL 12K 0.50% 1/16W
R167	1-218-703-11	s	CHIP,METAL 3K 0.50% 1/16W
R168	1-218-712-11	s	CHIP,METAL 6.8K 0.50% 1/16W
R169	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R170	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R171	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R172	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R173	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R174	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R175	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R176	1-218-652-11	s	CHIP,METAL 22 0.50% 1/16W
R177	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R178	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R180	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R181	1-218-728-11	s	METAL 33K 0.50% 1/16W
R182	1-218-728-11	s	METAL 33K 0.50% 1/16W
R183	1-218-728-11	s	METAL 33K 0.50% 1/16W
R184	1-218-728-11	s	METAL 33K 0.50% 1/16W
R185	1-218-728-11	s	METAL 33K 0.50% 1/16W
R186	1-218-728-11	s	METAL 33K 0.50% 1/16W
R187	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R188	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R189	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R200	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R201	1-218-718-11	s	CHIP, METAL 12K 0.50% 1/16W
R202	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R203	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R204	1-218-686-11	s	METAL 560 0.50% 1/16W
R205	1-218-736-11	s	METAL 68K 0.50% 1/16W
R206	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R207	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R208	1-218-688-11	s	METAL 680 0.50% 1/16W
R209	1-218-702-11	s	CHIP, METAL 2.7K 0.50% 1/16W
R210	1-218-721-11	s	CHIP, METAL 16K 0.50% 1/16W
R211	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R212	1-218-693-11	s	CHIP,METAL 1.1K 0.50% 1/16W
R213	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R214	1-218-712-11	s	CHIP,METAL 6.8K 0.50% 1/16W
R215	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R216	1-218-694-11	s	CHIP, METAL 1.2K 0.50% 1/16W
R217	1-218-701-11	s	METAL 2.4K 0.50% 1/16W
R218	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R219	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R220	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R221	1-218-685-11	s	METAL 510 0.50% 1/16W
R222	1-218-690-11	s	CHIP,METAL 820 0.50% 1/16W
R223	1-218-696-11	s	CHIP,METAL 1.5K 0.50% 1/16W
R224	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R225	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R226	1-218-685-11	s	METAL 510 0.50% 1/16W
R227	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R228	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R230	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R231	1-218-728-11	s	METAL 33K 0.50% 1/16W
R232	1-218-728-11	s	METAL 33K 0.50% 1/16W
R233	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R234	1-218-711-11	s	METAL 6.2K 0.50% 1/16W
R235	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R236	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R237	1-218-707-11	s	CHIP, METAL 4.3K 0.50% 1/16W
R238	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R239	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R240	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R241	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R242	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R243	1-218-691-11	s	CHIP,METAL 910 0.50% 1/16W
R244	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R245	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R246	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R247	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R248	1-216-864-11	s	CHIP, METAL 0 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R249	1-218-670-11	s	CHIP, METAL 120 0.50% 1/16W
R250	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R251	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R252	1-218-702-11	s	CHIP, METAL 2.7K 0.50% 1/16W
R253	1-218-736-11	s	METAL 68K 0.50% 1/16W
R254	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R255	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R257	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R258	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R259	1-218-686-11	s	METAL 560 0.50% 1/16W
R262	1-218-696-11	s	CHIP,METAL 1.5K 0.50% 1/16W
R263	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R264	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R265	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R266	1-218-718-11	s	CHIP,METAL 12K 0.50% 1/16W
R267	1-218-703-11	s	CHIP,METAL 3K 0.50% 1/16W
R268	1-218-712-11	s	CHIP,METAL 6.8K 0.50% 1/16W
R269	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R270	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R271	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R272	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R273	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R274	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R275	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R276	1-218-652-11	s	CHIP,METAL 22 0.50% 1/16W
R277	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R278	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R288	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R289	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R300	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R301	1-218-715-11	s	CHIP, METAL 9.1K 0.50% 1/16W
R302	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R303	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R304	1-218-686-11	s	METAL 560 0.50% 1/16W
R305	1-218-736-11	s	METAL 68K 0.50% 1/16W
R306	1-218-745-11	s	CHIP, METAL 160K 0.50% 1/16W
R307	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R308	1-218-688-11	s	METAL 680 0.50% 1/16W
R309	1-218-702-11	s	CHIP, METAL 2.7K 0.50% 1/16W
R310	1-218-721-11	s	CHIP, METAL 16K 0.50% 1/16W
R311	1-218-699-11	s	CHIP, METAL 2K 0.50% 1/16W
R312	1-218-693-11	s	CHIP,METAL 1.1K 0.50% 1/16W
R313	1-218-688-11	s	METAL 680 0.50% 1/16W
R314	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R315	1-218-712-11	s	CHIP,METAL 6.8K 0.50% 1/16W
R316	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R317	1-218-694-11	s	CHIP, METAL 1.2K 0.50% 1/16W
R318	1-218-701-11	s	METAL 2.4K 0.50% 1/16W
R319	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R320	1-218-728-11	s	METAL 33K 0.50% 1/16W
R321	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R322	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R323	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R324	1-218-685-11	s	METAL 510 0.50% 1/16W
R325	1-218-690-11	s	CHIP,METAL 820 0.50% 1/16W
R326	1-218-696-11	s	CHIP,METAL 1.5K 0.50% 1/16W
R327	1-218-710-11	s	CHIP, METAL 5.6K 0.50% 1/16W
R328	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R329	1-218-685-11	s	METAL 510 0.50% 1/16W

(VA-157 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R330	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R331	1-218-728-11	s	METAL 33K 0.50% 1/16W
R332	1-218-728-11	s	METAL 33K 0.50% 1/16W
R333	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R334	1-218-711-11	s	METAL 6.2K 0.50% 1/16W
R335	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R336	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R337	1-218-707-11	s	CHIP, METAL 4.3K 0.50% 1/16W
R338	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R339	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R340	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R341	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R342	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R343	1-218-691-11	s	CHIP,METAL 910 0.50% 1/16W
R344	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R345	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R346	1-218-684-11	s	CHIP, METAL 470 0.50% 1/16W
R347	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R348	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R349	1-218-670-11	s	CHIP, METAL 120 0.50% 1/16W
R350	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R351	1-216-864-11	s	CHIP, METAL 0 5% 1/16W
R352	1-218-702-11	s	CHIP, METAL 2.7K 0.50% 1/16W
R353	1-218-736-11	s	METAL 68K 0.50% 1/16W
R354	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R355	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R357	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R358	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R359	1-218-686-11	s	METAL 560 0.50% 1/16W
R362	1-218-696-11	s	CHIP,METAL 1.5K 0.50% 1/16W
R363	1-218-700-11	s	CHIP, METAL 2.2K 0.50% 1/16W
R364	1-218-724-11	s	CHIP, METAL 22K 0.50% 1/16W
R365	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R366	1-218-718-11	s	CHIP,METAL 12K 0.50% 1/16W
R367	1-218-703-11	s	CHIP,METAL 3K 0.50% 1/16W
R368	1-218-712-11	s	CHIP,METAL 6.8K 0.50% 1/16W
R369	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R370	1-218-740-11	s	CHIP, METAL 100K 0.50% 1/16W
R371	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R372	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R373	1-218-716-11	s	CHIP, METAL 10K 0.50% 1/16W
R374	1-218-708-11	s	CHIP, METAL 4.7K 0.50% 1/16W
R375	1-218-692-11	s	CHIP, METAL 1K 0.50% 1/16W
R376	1-218-652-11	s	CHIP,METAL 22 0.50% 1/16W
R377	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R378	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R380	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R381	1-218-668-11	s	CHIP, METAL 100 0.50% 1/16W
R388	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
R389	1-218-676-11	s	CHIP, METAL 220 0.50% 1/16W
RV1	1-237-034-11	s	RES, ADJ, METAL 2K
RV2	1-237-034-11	s	RES, ADJ, METAL 2K
RV100	1-241-262-11	s	RES, ADJ, METALT 2K
RV101	1-237-035-11	s	CHIP, RES, ADJ METAL 5K
RV102	1-237-038-11	s	RES, ADJ, METAL 50K
RV200	1-241-262-11	s	RES, ADJ, METALT 2K
RV201	1-237-035-11	s	CHIP, RES, ADJ METAL 5K
RV202	1-237-038-11	s	RES, ADJ, METAL 50K
RV300	1-241-262-11	s	RES, ADJ, METALT 2K

(VA-157 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
RV301	1-237-035-11	s	CHIP, RES, ADJ METAL 5K
RV302	1-237-038-11	s	RES, ADJ, METAL 50K

3-3. Frame List

Ref.No. or Q'ty	Part No.	SP	Description
TO CN1/CN-1118 BOARD			
1pc	1-580-591-11	o	HOUSING, 30P
29pcs	1-580-599-11	o	CONTACT, AWG26-30
TO CN3/SH-55 BOARD			
1pc	1-565-130-11	o	HOUSING 11P
10pcs	1-565-163-11	o	CONTACT, AWG28-32
TO CN1/TG-193 BOARD			
1pc	1-580-585-11	o	HOUSING, 18P
18pcs	1-580-599-11	o	CONTACT, AWG26-30
TO CN1/VA-157 BOARD			
1pc	1-580-582-11	o	HOUSING, 12P
11pcs	1-580-599-11	o	CONTACT, AWG26-30
TO CN6/VA-157 BOARD			
1pc	1-695-215-11	o	CONTACT, AWG26-30
5pcs	1-764-195-11	o	HOUSING, CONNECTOR 5P
TO CN7/VA-157 BOARD			
1pc	1-695-215-11	o	CONTACT, AWG26-30
5pcs	1-764-195-11	o	HOUSING, CONNECTOR 5P
TO CN8/VA-157 BOARD			
1pc	1-695-215-11	o	CONTACT, AWG26-30
5pcs	1-764-195-11	o	HOUSING, CONNECTOR 5P
TO CN9/VA-157 BOARD			
1pc	1-695-215-11	o	CONTACT, AWG26-30
5pcs	1-764-192-11	o	HOUSING, CONNECTOR 2P
TO FILTER DISK UNIT			
1pc	1-565-130-11	o	HOUSING 11P
10pcs	1-565-163-11	o	CONTACT, AWG28-32

3-4. Supplied Accessories

Ref.No. or Q'ty	Part No.	SP	Description
[OHB-750A/750AP/730/730P]			
2pcs	3-187-845-01	o	LABEL, FILTER
[OHB-750WSA/750WSAP/730WS/730WSP]			
1pc	A-8317-800-A	o	MOUNTED CIRCUIT BOARD, RC-68
2pcs	3-187-845-01	o	LABEL, FILTER
1pc	3-681-884-11	o	LABEL,WS

3-5. Optional Fixtures

Part No.	SP	Description
A-8265-739-A	o	EXTENSION BOARD, EX-458 (for BVP-750)
A-8314-124-A	o	EXTENSION BOARD, EX-439 (for BVP-900/700)
J-6395-040-A	o	EXTENSION BOARD, EX-464 (for BVP-950)
J-6394-290-A	o	OHB EXTENSION HARNESS
J-6029-140-B	o	PATTERN BOX
J-6394-110-A	o	IC REMOVING TOOL
J-6470-480-A	o	ROM FOR ADJUSTMENT

3-6. Changed Parts

NOTE: The numbers identified by marking with) are
matching with each serial numbers.
See the table matched with each serial numbers.

711) Serial No. 10031 and Higher (OHB-730)
711) Serial No. 40011 and Higher (OHB-730P)
711) Serial No. 10026 and Higher (OHB-730WS)
711) Serial No. 40021 and Higher (OHB-730WSP)
711) Serial No. 10076 and Higher (OHB-750A)
711) Serial No. 40021 and Higher (OHB-750AP)
711) Serial No. 10051 and Higher (OHB-750WSA)
711) Serial No. 40021 and Higher (OHB-750WSAP)

SH-55/55A BOARD *SH-55 only
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711)	IC14	NOT IN USE.	--->	8-759-082-61 s IC TC4W53FU
711)	R113	1-218-721-11 s CHIP, METAL 16K 0.50% 1/16W	--->	DELETED.
711)	R114	1-218-721-11 s CHIP, METAL 16K 0.50% 1/16W	--->	DELETED.
711)	R115	1-218-709-11 s METAL 5.1K 0.50% 1/16W	--->	DELETED.
711)	R119	1-218-644-11 s METAL 10 0.50% 1/16W	--->	1-218-704-11 s METAL 3.3K 0.50% 1/16W
711)	R120	1-218-644-11 s METAL 10 0.50% 1/16W	--->	1-218-704-11 s METAL 3.3K 0.50% 1/16W
711)	R121	1-218-644-11 s METAL 10 0.50% 1/16W	--->	1-218-704-11 s METAL 3.3K 0.50% 1/16W
* 711)	R136	NOT IN USE.	--->	1-218-721-11 s CHIP, METAL 16K 0.50% 1/16W
* 711)	R137	NOT IN USE.	--->	1-218-721-11 s CHIP, METAL 16K 0.50% 1/16W
* 711)	R138	NOT IN USE.	--->	1-218-709-11 s METAL 5.1K 0.50% 1/16W

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Section 4
Semiconductor Pin Assignments

ここに記載されている半導体は，それぞれの機能を等価的に表したものです。　なお，互換性のない型名を併記していることがありますので，部品を交換するときは，Spare Partsの章を参照してください。
等価回路はICメーカーのデータブックに従いました。

Semiconductors of which functions are equivalent are described here. For parts replacement, refer to the section of Spare Parts in this manual. The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

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DIODE

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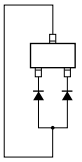
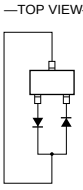


1SS300-TE85L

—TOP VIEW—



1SS302
1SS302-TE85L
MA3J74200LSO

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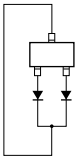

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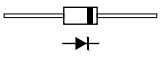
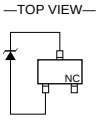
MA141WK



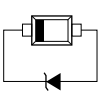
HZS3BLL

—TOP VIEW—



RD12M-B
RD12M-T1B

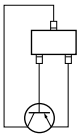
—TOP VIEW—



RD3.3UH(1)-T1
RD3.3UH-T1
RD4.3UH-T1

TRANSISTOR

—TOP VIEW—



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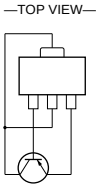
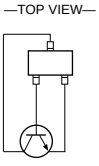
2SA1611-T1M7
2SA1688-5-TL
2SA1808-PT106

—TOP VIEW—



2SA1213Y-TE12L
2SB798-DL

—TOP VIEW—



2SC4177-L6
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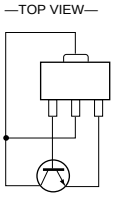
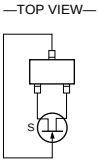
2SC4215-Y(TE85L)

—TOP VIEW—



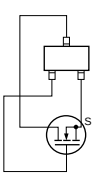
2SC2873Y-TE12L
2SD1623-S

—TOP VIEW—

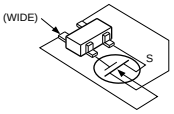


2SK508-K51
2SK508-T1K52
2SK1332-3
2SK1332-3-TL

—TOP VIEW—

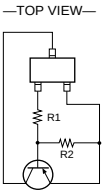


2SK620
2SK620-TX



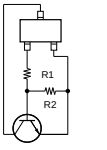
3SK163-2
3SK163-2-T7

—TOP VIEW—



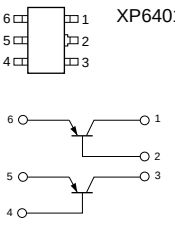
DTA144EUA-T106
(R1=47 K, R2=47 K)

—TOP VIEW—



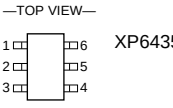
DTC144EUA-T106
(R1=47 K, R2=47 K)
DTC144EUT106

—TOP VIEW—



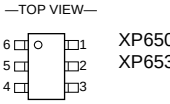
XP6401-TXE

—TOP VIEW—

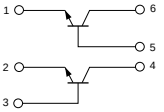


XP6435-TX

—TOP VIEW—



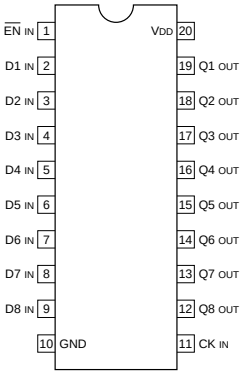
XP6501-TXE
XP6534-TX

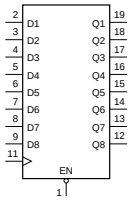


IC

74LCX574MTCX (NS)FLAT PACKAGE
SN74HC574APW-E05
SN74HC574APW-E20 (TI)

C-MOS 3-STATE D-TYPE EDGE-TRIGGERED FLIP-FLOP
—TOP VIEW—

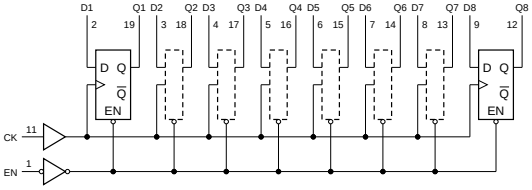




EACH FLIP-FLOP

INPUTS			OUT
EN	CK	D	Q
0	↑	1	1
0	↑	0	0
0	↓	×	Q_0
1	×	×	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
× ; DON'T CARE
HI-Z ; HIGH IMPEDANCE
Q_0 ; NO CHANGE

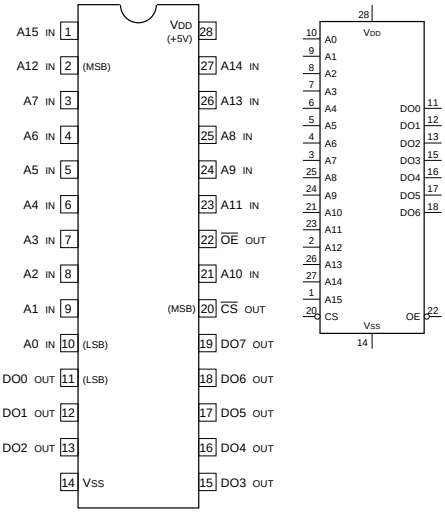


NOTE;

TYPE	VDD
74HC	+2 to +6V
74AC/74VHC	+2 to +5.5V
74ACT/74FCT 74HCT/74VHCT	+4.5 to +5.5V
74LCX	+2 to +3.6V
74LVC	+2 to +3.6V

AT27C512R-15RC (ATMEL)

C-MOS 512K (65536 × 8) UV-EPROM
—TOP VIEW—

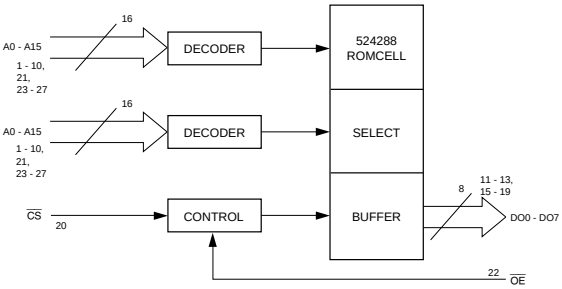


INPUT		DO	OPERATION
$\overline{CS}$	$\overline{OE}$		
1	×	HIGH-Z	STAND BY
0	1	HIGH-Z	OPERATING
0	0	DO	OPERATING

0 ; LOW LEVEL
1 ; HIGH LEVEL
× ; LOW OR HIGH LEVEL

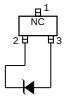
INPUT
$\overline{A0}$ - A15 ; ADDRESS INPUTS
$\overline{CS}$; CHIP SELECT

OUTPUT
$\overline{DO0}$ - DO7 ; DATA OUTPUTS
$\overline{OE}$; OUTPUT ENABLE



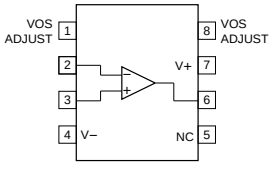
LM4040BIM3-5.0 (NS)
LM4040BIM3X-5.0

PRECISION MICROPOWER SHUNT VOLTAGE REFERENCE
—TOP VIEW—



LM6365M (NS)FLAT PACKAGE
LM6365MX

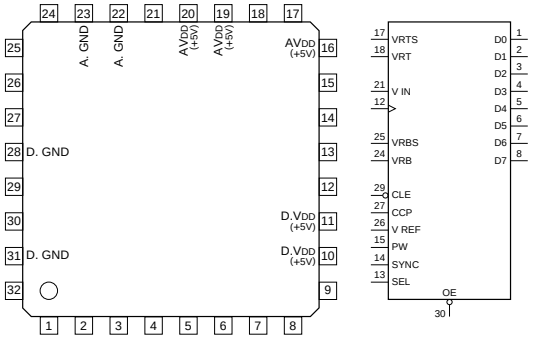
OPERATIONAL AMPLIFIER
—TOP VIEW—



CXD1176Q (SONY)

C-MOS 8-BIT 20MSPS VIDEO A / D CONVERTER

—TOP VIEW—



(A VDD, D VDD = +5V)

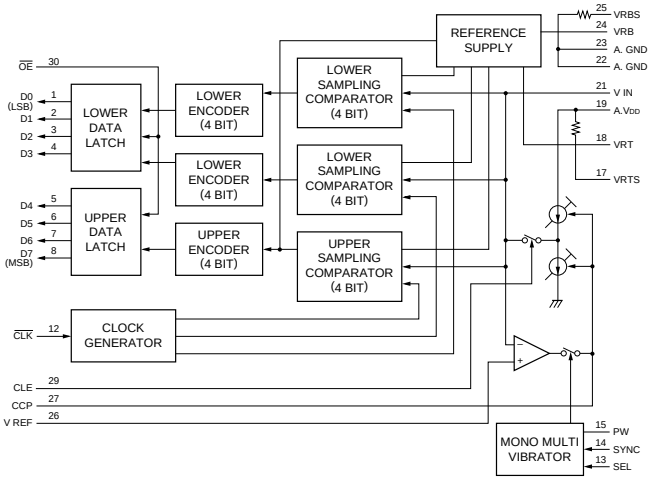
PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	O	D0(LSB)	17	I	VRTS
2	O	D1	18	I	VRT
3	O	D2	19	—	A.VDD
4	O	D3	20	—	A.VDD
5	O	D4	21	I	V IN
6	O	D5	22	—	A. GND
7	O	D6	23	—	A .GND
8	O	D7(MSB)	24	I	VRB
9	—	NC	25	I	VRBS
10	—	D.VDD	26	I	VREF
11	—	D.VDD	27	I	CCP
12	I	CLK	28	—	D GND
13	I	SEL	29	I	$\overline{CLE}$
14	I	SYNC	30	I	$\overline{OE}$
15	I	PW	31	—	D GND
16	—	A.VDD	32	—	NC

INPUT

CCP ; CLAMP CONTROL VOLTAGE FOR INTEGRATOR
$\overline{CLE}$; CLAMP ENABLE
CLK ; CLOCK
$\overline{CLP}$; CLAMP PULSE
$\overline{OE}$; OUTPUT ENABLE
PW ; PULSE WIDTH FOR MONO MULTI
SEL ; TRIGGER SELECT
SYNC ; TRIGGER PULSE FOR MONO MULTI VIBRATOR
V IN ; ANALOG
VRB ; REFERENCE VOLTAGE (BOTTOM)
VRBS ; SELF REFERENCE VOLTAGE SHORT (+0.5 V/BOTTOM)
VREF ; VOLTAGE REFERENCE FOR CLAMP
VRT ; REFERENCE VOLTAGE (TOP)
VRTS ; SELF REFERENCE VOLTAGE SHORT (+2.6 V/TOP)

OUTPUT

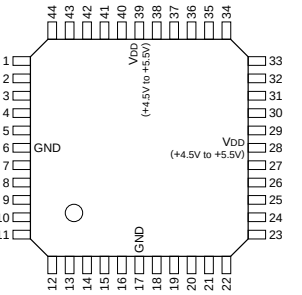
D0 - D7 ; DATA



CXD8072Q (SONY)FLAT PACKAGE

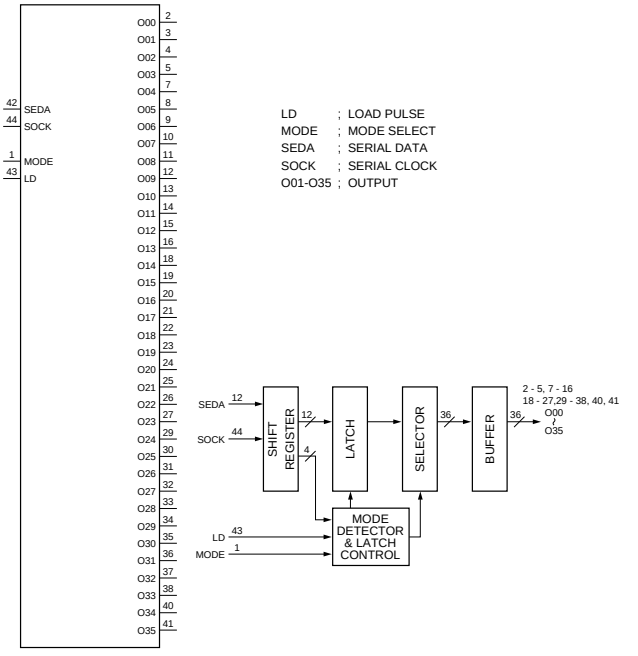
C-MOS SERIAL TO PARALLEL CONVERTER

—TOP VIEW—



(VDD = +4.5V to +5.5V)

PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	I	MODE	12	O	O09	23	O	O19	34	O	O29
2	O	O00	13	O	O10	24	O	O20	35	O	O30
3	O	O01	14	O	O11	25	O	O21	36	O	O31
4	O	O02	15	O	O12	26	O	O22	37	O	O32
5	O	O03	16	O	O13	27	O	O23	38	O	O33
6	—	GND	17	—	GND	28	—	VDD	39	—	VDD
7	O	O04	18	O	O14	29	O	O24	40	O	O34
8	O	O05	19	O	O15	30	O	O25	41	O	O35
9	O	O06	20	O	O16	31	O	O26	42	I	SEDA
10	O	O07	21	O	O17	32	O	O27	43	I	LD
11	O	O08	22	O	O18	33	O	O28	44	I	SOCK

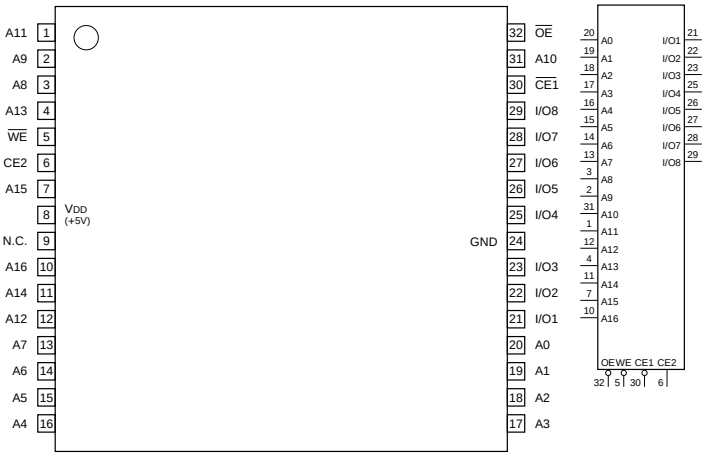


LD ; LOAD PULSE
MODE ; MODE SELECT
SEDA ; SERIAL DATA
SOCK ; SERIAL CLOCK
O01-O35 ; OUTPUT

CXK581000BTM-55LL (SONY)FLAT PACKAGE

C-MOS 1M(131.072 × 8)BIT STATIC RAM

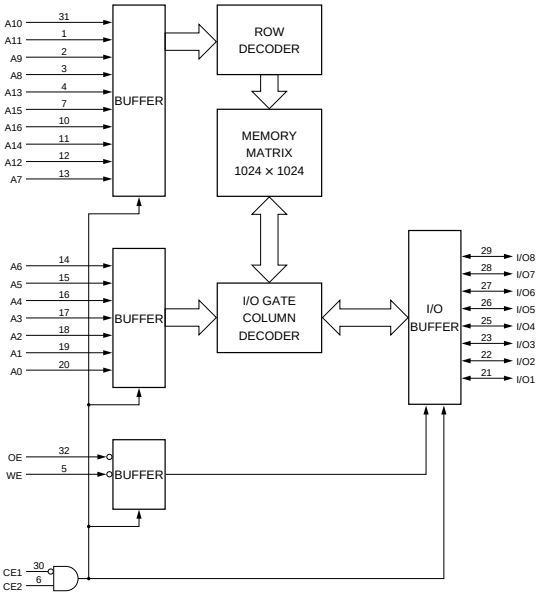
—TOP VIEW—



A0 - A16 : ADDRESS INPUTS
I/O1 - I/O8 : DATA INPUTS/OUTPUTS
$\overline{CE1}$, CE2 : CHIP ENABLE1, 2 INPUTS
$\overline{WE}$: WRITE ENABLE INPUT
$\overline{OE}$: OUTPUT ENABLE INPUT

$\overline{CE1}$	CE2	$\overline{OE}$	$\overline{WE}$	MODE	I/O TERMINAL
1	×	×	×	NOT SELECT	HIGH IMPEDANCE
×	0	×	×	NOT SELECT	HIGH IMPEDANCE
0	1	1	1	OUTPUT DISABLE	HIGH IMPEDANCE
0	1	0	1	READ	OUTPUT DATA
0	1	×	0	WRITE	INPUT DATA

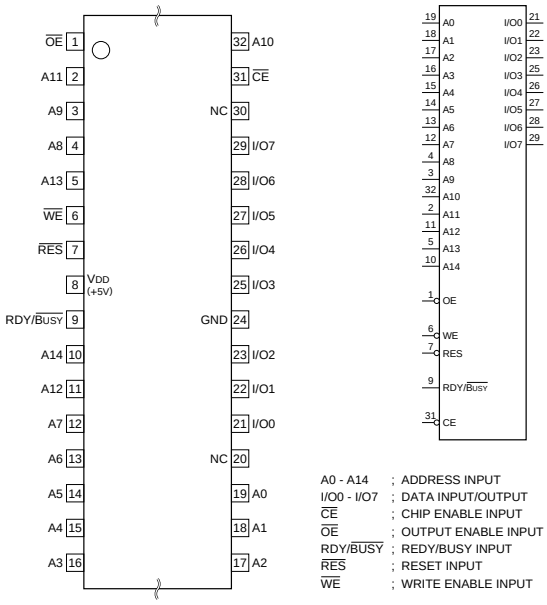
0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE



HN58C257AT10 (HITACHI)FLAT PACKAGE

32K (32768 × 8)-BIT EEPROM

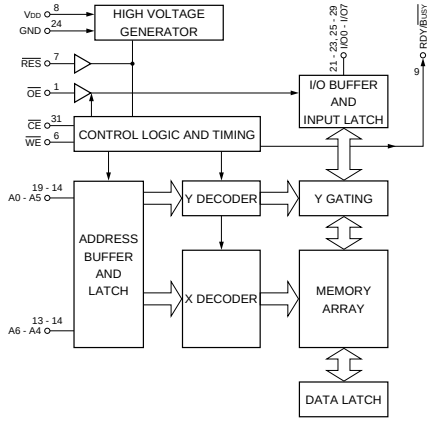
—TOP VIEW—



A0 - A14 ; ADDRESS INPUT
I/O0 - I/O7 ; DATA INPUT/OUTPUT
$\overline{CE}$; CHIP ENABLE INPUT
$\overline{OE}$; OUTPUT ENABLE INPUT
RDY/$\overline{BUSY}$; REDY/BUSY INPUT
$\overline{RES}$; RESET INPUT
$\overline{WE}$; WRITE ENABLE INPUT

MODE \ PIN	$\overline{CE}$	$\overline{OE}$	$\overline{WE}$	RDY/$\overline{BUSY}$	$\overline{RES}$	I/O
READ	0	0	1	HIGH Z	1	DOUT
STANDBY	1	×	×	HIGH Z	×	HIGH Z
WRITE	0	1	0	HIGH Z → VOL	1	DIN
DESELECT	0	1	1	HIGH Z	1	HIGH Z
WRITE INHIBIT	×	×	1	HIGH Z	×	–
WRITE INHIBIT	×	0	×	HIGH Z	×	–
$\overline{DATA}$ POLLING	0	0	1	VOL	1	DATA OUT
PROGRAM RESET	×	×	×	HIGH Z	0	HIGH Z

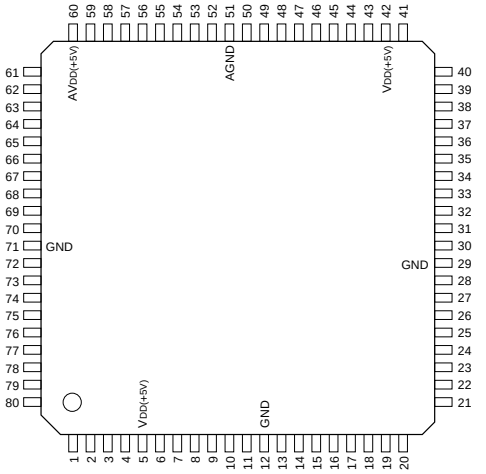
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE



HD6475328F10 (HITACHI)

C-MOS 16-BIT MICROPROCESSOR

—TOP VIEW—



PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	I/O	P21/R/$\overline{W}$	28	I/O	P47/A7	55	I/O	P83/AN3
2	I/O	P22/$\overline{DS}$	29	—	GND	56	I/O	P84/AN4
3	I/O	P23/$\overline{RD}$	30	I/O	P50/A8	57	I/O	P85/AN5
4	I/O	P24/$\overline{WR}$	31	I/O	P51/A9	58	I/O	P86/AN6
5	—	VDD	32	I/O	P52/A10	59	I/O	P87/AN7
6	I	MD0	33	I/O	P53/A11	60	—	AVDD
7	I	MD1	34	I/O	P54/A12	61	I/O	P90/FTOA2
8	I	MD2	35	I/O	P55/A13	62	I/O	P91/FTOA3
9	I	$\overline{STBY}$	36	I/O	P56/A14	63	I/O	P92/PW1
10	I	$\overline{RES}$	37	I/O	P57/A15	64	I/O	P93/PW2
11	I	NMI	38	I/O	P60/A16	65	I/O	P94/PW3
12	—	GND	39	I/O	P61/A17	66	I/O	P95/TXD
13	I/O	P30/D0	40	I/O	P62/A18	67	I/O	P96/RXD
14	I/O	P31/D1	41	I/O	P63/A19	68	I/O	P97/SCK
15	I/O	P32/D2	42	—	VDD	69	I	EXTAL
16	I/O	P33/D3	43	I/O	P70/TMCI	70	I	XTAL
17	I/O	P34/D4	44	I/O	P71/FTI1	71	—	VSS
18	I/O	P35/D5	45	I/O	P72/FTI2	72	I/O	P10/ø
19	I/O	P36/D6	46	I/O	P73/FTI3/TMRI	73	I/O	P11/E
20	I/O	P37/D7	47	I/O	P74/FTOB1/FTCI1	74	I/O	P12/$\overline{BACK}$
21	I/O	P40/A0	48	I/O	P75/FTOB2/FTCI2	75	I/O	P12/$\overline{BREQ}$
22	I/O	P41/A1	49	I/O	P76/FTOB3/FTCI3	76	I/O	P12/$\overline{WAIT}$
23	I/O	P42/A2	50	O	P77/FTOA1	77	I/O	P12/$\overline{IRQ0}$
24	I/O	P43/A3	51	—	AGND	78	I/O	P12/$\overline{IRQ1}$
25	I/O	P44/A4	52	I/O	P80/AN0	79	I/O	P12/TMO
26	I/O	P45/A5	53	I/O	P81/AN1	80	I/O	P12/$\overline{AS}$
27	I/O	P46/A6	54	I/O	P82/AN2			

INPUT

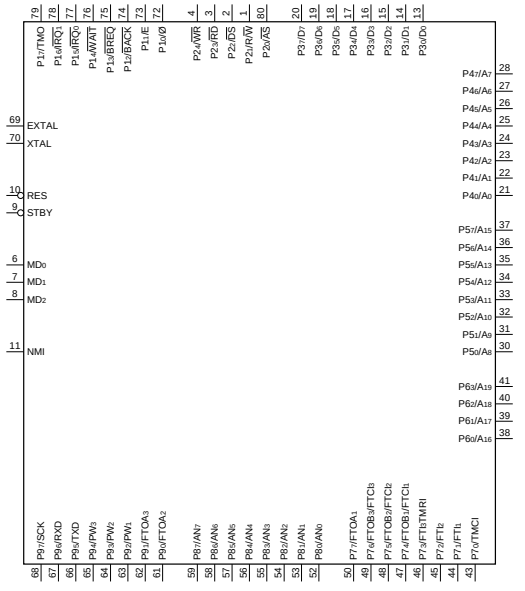
AN0 - AN7	; ANALOG INPUT
BREQ	; BUS REQUEST
EXTAL	; CONNECTED TO CRYSTAL OSCILLATOR.
ETCI1 - FTCI3	; FRT COUNTER CLOCK INPUT (CHANNEL 1 TO 3)
FTI1 - FTI3	; FRT INPUT CAPTURE INPUT (CHANNEL 1 TO 3)
IRQ0, 1	; INTERRUPTION REQUEST 0 AND 1
MD0 - MD2	; MODE SETTING
NMI	; NON MASKABLE INTERRUPTION
P80 - P87	; PORT 8
RES	; RESET
RXD	; RECEIVE DATA
STBY	; STANDBY
TMCI	; 8-BIT TIMER CLOCK INPUT
TMRI	; 8-BIT TIMER COUNTER RESET INPUT
WAIT	; WAIT
XTAL	; CONNECTED TO CRYSTAL OSCILLATOR.

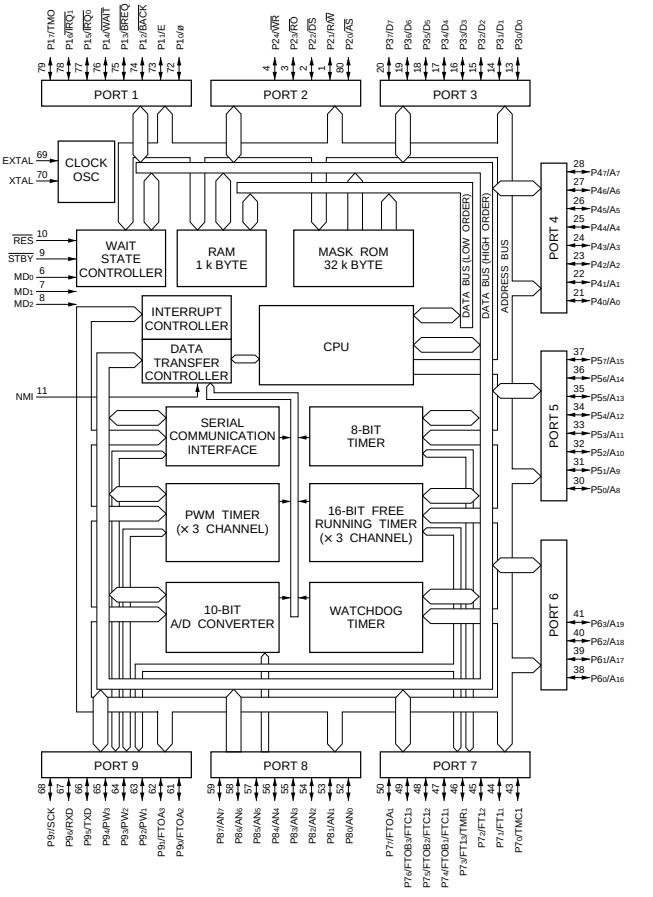
OUTPUT

A0 - A19	; ADDRESS BUS
AS	; ADDRESS STROBE
BACK	; BUS REQUEST ACKNOWLEDGE
DS	; DATA STROBE
E	; ENABLE CLOCK
FTOA1 - FTOA3	; FRT OUTPUT COMPARE A OUTPUT (CHANNEL 1 TO 3)
FTOB1 - FTOB3	; FRT OUTPUT COMPARE B OUTPUT (CHANNEL 1 TO 3)
PW1 - PW3	; PWM TIMER OUTPUT (CHANNEL 1 TO 3)
R/W	; READ/WRITE
RD	; READ
TMO	; 8-BIT TIMER OUTPUT
TXD	; SEND DATA
WR	; WRITE
ø	; SYSTEM CLOCK

INPUT/OUTPUT

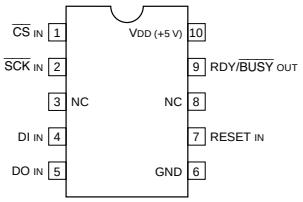
D0 - D7	; DATA BUS
P10 - P17	; PORT 1
P20 - P24	; PORT 2
P30 - P37	; PORT 3
P40 - P47	; PORT 4
P50 - P57	; PORT 5
P60 - P63	; PORT 6
P70 - P77	; PORT 7
P90 - P97	; PORT 9
SCK	; SERIAL CLOCK INPUT/OUTPUT

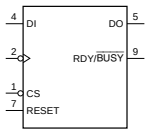




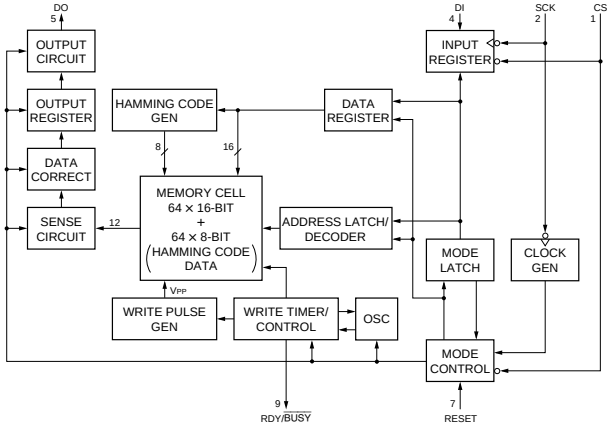
M6M80011AFP (MITSUBISHI)FLAT PACKAGE
M6M80011AFP-T3

C-MOS 1 K (64 × 16)-BIT EPROM
—TOP VIEW—



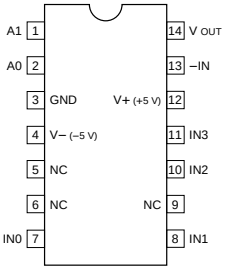


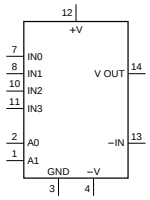
INPUT			OUTPUT		
CS	:	CHIP SELECT	DO	:	DATA
DI	:	DATA	RDY/BUSY	:	BUSY
RESET	:	RESET			
SCK	:	CLOCK			

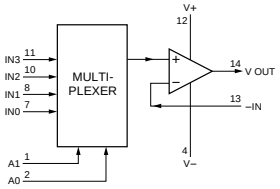


MAX454CSD (MAXIM)

C-MOS VIDEO MULTIPLEXER/AMPLIFIER
—TOP VIEW—

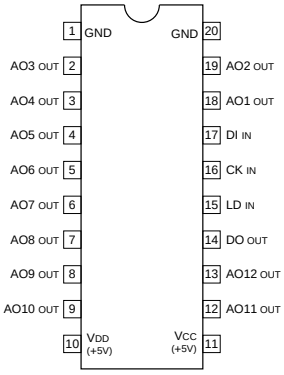


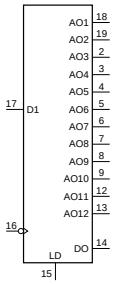




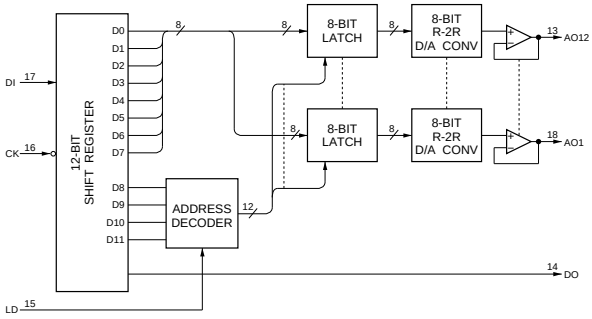
MB88346BPFV (FUJITSU)FLAT PACKAGE(SMALL)
MB88346BPFV-EF

C-MOS 8-BIT D/A CONVERTER
—TOP VIEW—



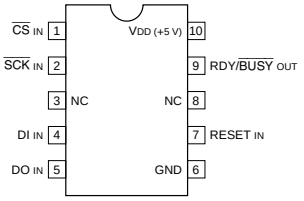


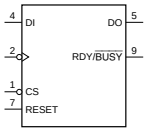
AO1 - AO12 ; 8-BIT D/A OUTPUTS
CK ; CLOCK INPUT
DI ; SERIAL DATA INPUT
DO ; DATA OUTPUT
LD ; DATA LOAD CONTROL INPUT (H ; LOAD)



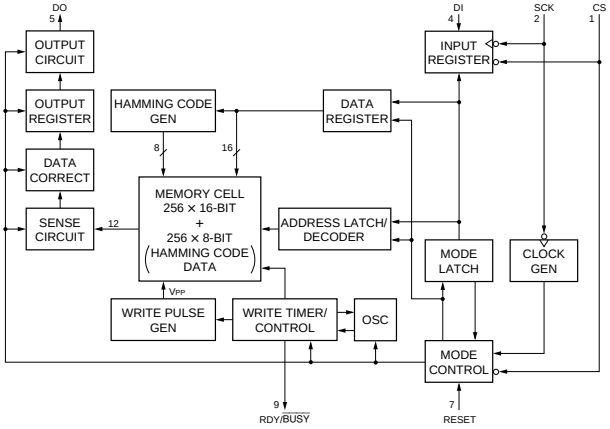
M6M80041FP (MITSUBISHI)FLAT PACKAGE
M6M80041FP-T2

C-MOS 4 K (256 × 16)-BIT EPROM
—TOP VIEW—



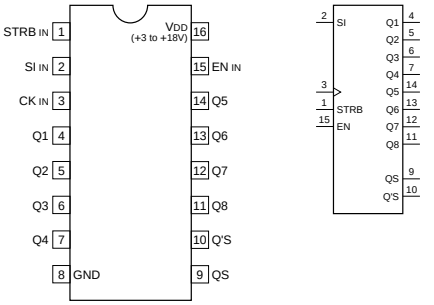


INPUT			OUTPUT		
CS	:	CHIP SELECT	DO	:	DATA
DI	:	DATA	RDY/BUSY	:	BUSY
RESET	:	RESET			
SCK	:	CLOCK			



MC14094BF (MOTOROLA)FLAT PACKAGE

C-MOS 8-STAGE SHIFT-AND-STORE BUS REGISTER
—TOP VIEW—



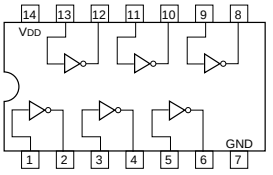
SI ; SERIAL DATA INPUT
CK ; CLOCK INPUT
STRB ; STROBE INPUT
EN ; OUTPUT ENABLE INPUT
Q1 - Q8 ; PARALLEL DATA OUTPUTS
QS, Q'S ; SERIAL DATA OUTPUTS

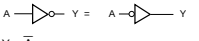
INPUTS				PARALLEL OUT		SERIAL OUT	
CK	EN	STRB	SI	Q1	Qn	QS	Q's
↑	0	×	×	HI-Z	HI-Z	Q7	NC
↓	0	×	×	HI-Z	HI-Z	NC	Q7
↑	1	0	×	NC	NC	Q7	NC
↑	1	1	0	0	Qn-1	Q7	NC
↑	1	1	1	1	Qn-1	Q7	NC
↓	1	1	1	NC	NC	NC	Q7

1 ; HIGH
0 ; LOW
× ; DON'T CARE
HI-Z ; HIGH IMPEDANCE
NC ; NO CHANGE

MC74AC04MEL (MOTOROLA)FLAT PACKAGE

C-MOS HEX INVERTERS
—TOP VIEW—





$Y = \overline{A}$

A	Y
0	1
1	0

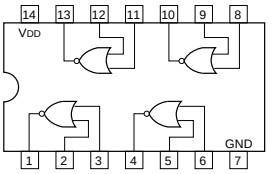
0 : LOW LEVEL
1 : HIGH LEVEL

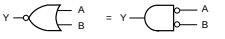
NOTE:

TYPE	VDD
74AC/74VHC	+2 to +5.5 V
74ACT/74HCT/74VHCT	+4.5 to +5.5 V
74LCX	+2 to +3.6 V
OTHER TYPE	+2 to +6 V

SN74HC02APW-E05 (TI)

C-MOS QUAD 2-INPUT NOR GATES
—TOP VIEW—





$Y = \overline{A + B} = \overline{A} \cdot \overline{B}$

A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

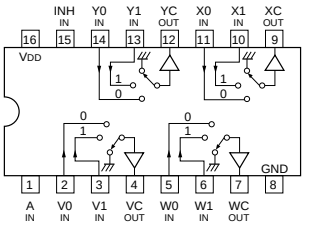
0 ; LOW LEVEL
1 ; HIGH LEVEL

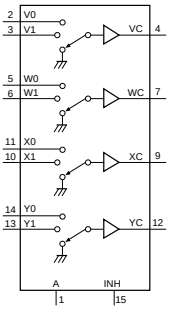
NOTE:

TYPE	VDD
74HC	+2 to +6V
74AC/74VHC	+2 to +5.5V
74HCT/74ACT	+4.5 to +5.5V
74LCX	+2 to +3.6V

SN74HC157APW-E05 (TI)FLAT PACKAGE

C-MOS QUAD 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
—TOP VIEW—





NOTE:

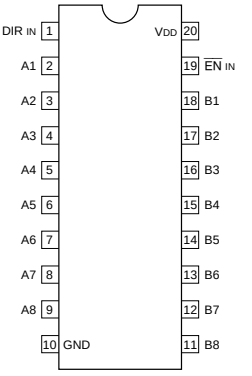
TYPE	VDD
74ACT/74FCT/74VHCT	+5 V
TC74AC157P TC74AC157 74VHC	+2 to +5.5 V
TC40H	+2 to +8 V
OTHER TYPES	+2 to +6 V

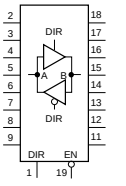
CONT.IN		ON
INH	A	CHANNEL
0	0	0
0	1	1
1	×	GND

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE

SN74HC245APW-E05 (TI)FLAT PACKAGE

C-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUTS
—TOP VIEW—



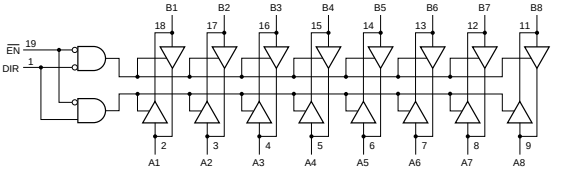


EN	DIR	OPERATION
0	0	B to A
0	1	A to B
1	×	HI-Z

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE

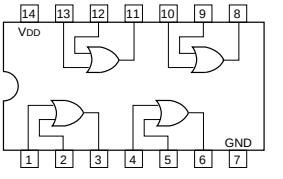
NOTE:

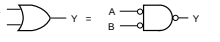
TYPE	VDD
74HC	+2 to +6 V
74ABT 74ACT 74BCT 74HCT 74VHCT	+4.5 to +5.5 V
74AC 74VHC	+2 to +5.5 V
74LCX	+2 to +3.6 V
74LVT	+2.7 to +3.6 V



SN74HC32APW-E05 (TI)FLAT PACKAGE

C-MOS QUAD 2-INPUT OR GATES
—TOP VIEW—





$Y = A + B = \overline{\overline{A} \cdot \overline{B}}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0 : LOW LEVEL
1 : HIGH LEVEL

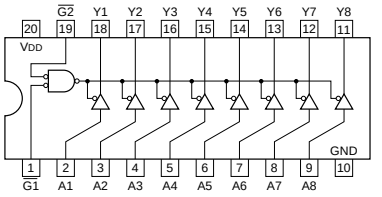
NOTE:

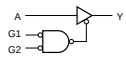
TYPE	VDD
74AC/74VHC	+2 to +5.5 V
74HC	+2 to +6 V
74ACT/74HCT	+4.5 to +5.5 V

SN74HC541APW-E05 (TI)FLAT PACKAGE

C-MOS BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS

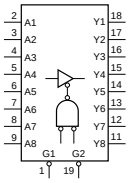
—TOP VIEW—





G1	G2	A	Y
0	0	0	0
0	0	1	1
1	×	×	HI-Z
×	1	×	HI-Z

0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE
HI-Z : HIGH IMPEDANCE



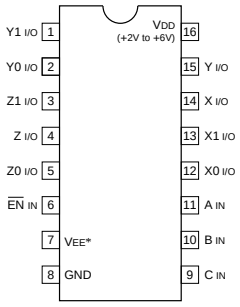
NOTE :

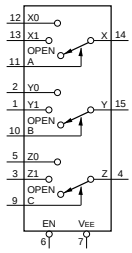
TYPE	VDD
TC74AC/TC74VHC	+2 to +5.5 V
ABT/ACT/BCT/FCT/HCT/VHCT	+5 V
74LCX	+2 to +3.6 V
OTHER TYPES	+2 to +6 V

TC74HC4053AFS (TOSHIBA)FLAT PACKAGE
TC74HC4053AFS-EL

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER

—TOP VIEW—





VEE*; VDD – VEE = +3V to +12V
VEE ≦ GND

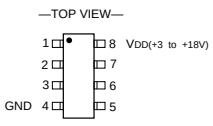
CONTROL INPUTS				ON CHANNEL		
EN	SELECT					
	C	B	A			
0	0	0	0	Z0	Y0	X0
0	0	0	1	Z0	Y0	X1
0	0	1	0	Z0	Y1	X0
0	0	1	1	Z0	Y1	X1
0	1	0	0	Z1	Y0	X0
0	1	0	1	Z1	Y0	X1
0	1	1	0	Z1	Y1	X0
0	1	1	1	Z1	Y1	X1
1	×	×	×	OPEN		

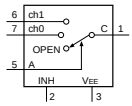
0 ; LOW LEVEL
1 ; HIGH LEVEL
× ; DON'T CARE

TC4W53FU (TOSHIBA)CHIP PACKAGE
TC4W53FU(TE12R)

C-MOS 2-CHANNEL MULTIPLEXER / DEMULTIPLEXER

—TOP VIEW—





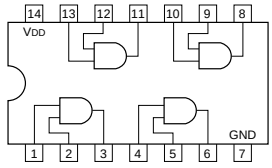
CONT.INPUT		ON CHANNEL
INH	A	
0	0	ch0
0	1	ch1
1	×	OPEN

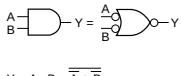
0 ; LOW LEVEL
1 ; HIGH LEVEL
× ; DON'T CARE

TC74VHC08FS(EL) (TOSHIBA)FLAT PACKAGE

C-MOS QUAD 2-INPUT AND GATE

—TOP VIEW—





$Y = A \bullet B = \overline{\overline{A} + \overline{B}}$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0 : LOW LEVEL
1 : HIGH LEVEL

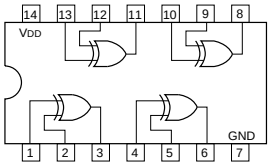
NOTE;

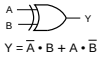
TYPE	VDD
74AC/74VHC	+2 to +5.5 V
40H	+2 to +8 V
74ACT/74HCT/74VHCT	+4.5 to +5.5 V
74LCX	+2 to +3.6 V
OTHER TYPES	+2 to +6 V

TC74AC86P (TOSHIBA)

C-MOS QUAD EXCLUSIVE OR GATES

—TOP VIEW—





$Y = \overline{A} \bullet B + A \bullet \overline{B}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

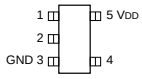
NOTE :

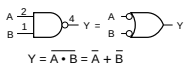
TYPE	VDD
74AC/74VHC	+2 to +5.5V
74ACT/74HCT	+4.5 to +5.5V
74LCX	+2 to +3.6V
OTHER TYPES	+2 to +6V

TC7S00FU(TE85R) (TOSHIBA)CHIP PACKAGE

C-MOS 2-INPUT NAND GATE

—TOP VIEW—





$Y = \overline{A \bullet B} = \overline{A} + \overline{B}$

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

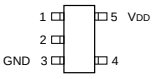
0 ; LOW LEVEL
1 ; HIGH LEVEL

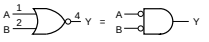
TYPE	VDD
7S00F 7S00FU	+2 to +6V
4S11F 4SU11F	+3 to +18V
7SH00FU	+2 to +5.5V

TC7S02FU-TE85L (TOSHIBA)CHIP PACKAGE
TC7S02FU(TE85R)

C-MOS 2-INPUT NOR GATE

—TOP VIEW—





$Y = \overline{A + B} = \overline{A} \cdot \overline{B}$

A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

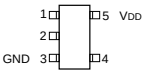
0 ; LOW LEVEL
1 ; HIGH LEVEL

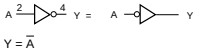
TYPE	VDD
4S01F	+3 to +18V
7S02F 7S02FU 7SH02FU	+2 to +6V

TC7S04FU(TE85R) (TOSHIBA)FLAT PACKAGE

C-MOS INVERTER

—TOP VIEW—





$Y = \overline{A}$

A	Y
0	1
1	0

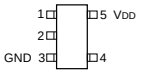
0 ; LOW LEVEL
1 ; HIGH LEVEL

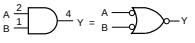
TYPE	VDD
7S04F 7SU04F 7SU04FU	+2 to +6V
4S69F 4SU69F	+3 to +18V
7SH04FU 7SHU04FU	+2 to +5.5V

TC7S08FU(TE85R) (TOSHIBA)FLAT PACKAGE
TC7SH08FU-TE85R (TOSHIBA)CHIP PACKAGE

C-MOS 2-INPUT AND GATE

—TOP VIEW—





$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

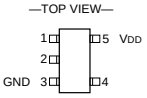
0 ; LOW LEVEL
1 ; HIGH LEVEL

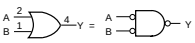
TYPE	VDD
7S08F 7S08FU	+2 to +6V
4S81F 14S81F	+3 to +18V
7SH08FU 7SH08F	+2 to +5.5V

TC7S32FU(TE85R) (TOSHIBA)FLAT PACKAGE

C-MOS 2-INPUT OR GATE

—TOP VIEW—





$Y = A + B = \overline{\overline{A} \cdot \overline{B}}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

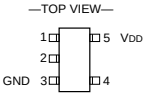
0 ; LOW LEVEL
1 ; HIGH LEVEL

TYPE	VDD
7S32F 7S32FU	+2 to +6 V
4S71F	+3 to +18 V
7SH32FU	+2 to +5.5 V
7ST32FU	+5 V

TC7S86FU (TOSHIBA)CHIP PACKAGE
TC7S86FU(TE85R)

C-MOS 2-INPUT EXCLUSIVE OR GATE

—TOP VIEW—



$Y = \overline{A} \cdot B + A \cdot \overline{B}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

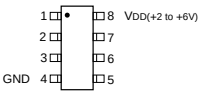
0 ; LOW LEVEL
1 ; HIGH LEVEL

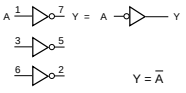
TYPE	VDD
7S86FU 7S86F	+2 to +6V
4S30F	+3 to +18V
7SH86FU	+2 to +5.5V

TC7W04FU(TE12R) (TOSHIBA)FLAT PACKAGE

C-MOS HEX INVERTERS

—TOP VIEW—





$Y = \overline{A}$

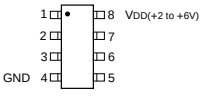
A	Y
0	1
1	0

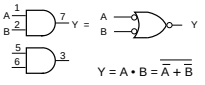
0 ; LOW LEVEL
1 ; HIGH LEVEL

TC7W08FU (TOSHIBA)CHIP PACKAGE
TC7W08FU(TE12R)

C-MOS 2-INPUT AND GATE

—TOP VIEW—





$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

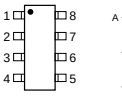
A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

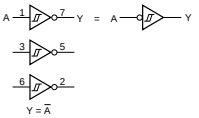
0 ; LOW LEVEL
1 ; HIGH LEVEL

TC7W14FU(TE12R) (TOSHIBA)CHIP PACKAGE

C-MOS HEX INVERTERS

—TOP VIEW—





A	Y
0	1
1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

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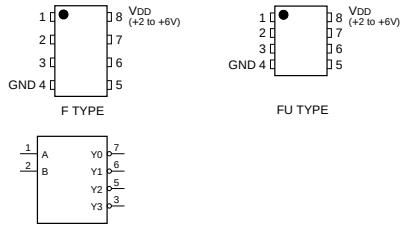
TC7W139FU(TE12R) (TOSHIBA)CHIP PACKAGE

C-MOS 2 to 4 LINE DECODER WITH ENABLE

—TOP VIEW—



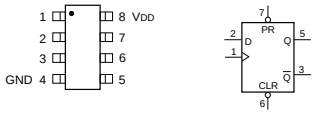
INPUTS		OUTPUTS				SELECTED OUTPUT
SELECT						
B	A	$\overline{Y0}$	$\overline{Y1}$	$\overline{Y2}$	$\overline{Y3}$	
0	0	0	1	1	1	$\overline{Y0}$
0	1	1	0	1	1	$\overline{Y1}$
1	0	1	1	0	1	$\overline{Y2}$
1	1	1	1	1	0	$\overline{Y3}$

0 ; LOW LEVL
1 ; HIGH LEVEL

TC7W74FU (TOSHIBA)CHIP PACKAGE
TC7W74FU(TE12R)

C-MOS D-TYPE FLIP-FLOPS WITH PRESET AND CLEAR

—TOP VIEW—



TYPE	VDD
7W74F 7W74FU	+2 to +6V
7WH74FU	+2 to +5.5V

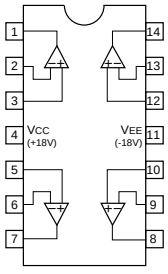
INPUTS				OUTPUTS		FUNCTION
$\overline{CLR}$	$\overline{PR}$	CK	D	Qn+1	$\overline{Qn+1}$	
0	1	×	×	0	1	CLEAR
1	0	×	×	1	0	PRESET
0	0	×	×	1	1	–
1	1	↓	0	0	1	–
1	1	↓	1	1	0	–
1	1	↑	×	Qn	$\overline{Qn}$	NO CHANGE

0 ; LOW LEVEL
1 ; HIGH LEVEL
× ; DON'T CARE

TL064CPW (TI)FLAT PACKAGE
TL064CPW-E05

OPERATIONAL AMPLIFIER
(J FET INPUT)

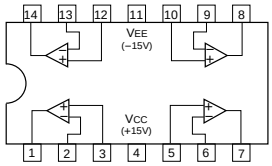
—TOP VIEW—



TL084CPW-E05
TL084CPW-E20 (TI)FLAT PACKAGE

OPERATIONAL AMPLIFIER
(J FET INPUT)

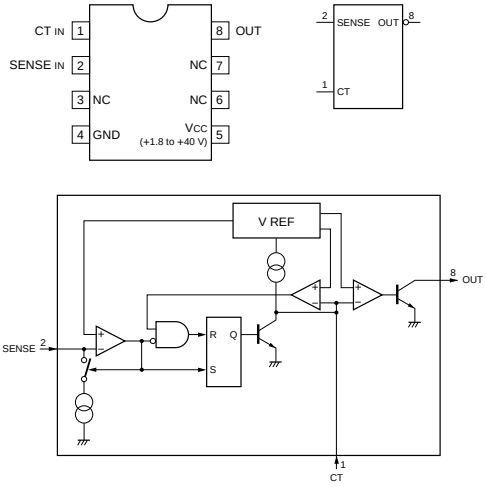
—TOP VIEW—



TL7700CPS (TI)FLAT PACKAGE
TL7700CPS-E05

VARIABLE SUPPLY VOLTAGE SUPERVISOR

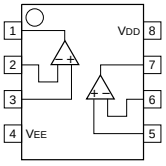
—TOP VIEW—



TLC272CPW-E05 (TI)FLAT PACKAGE

C-MOS DUAL OPERATIONAL AMPLIFIERS
(SINGLE-SUPPLY TYPE)

—TOP VIEW—

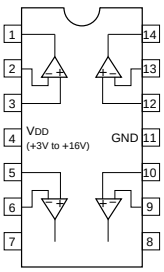


TYPE	VDD - VEE
LMC662 TYPE	+5 to +15V
OTHERS	+3 to +16V

TLC274CPW (TI)FLAT PACKAGE
TLC274CPW-E05

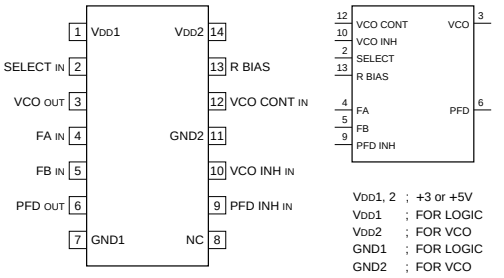
C-MOS OPERATIONAL AMPLIFIER

—TOP VIEW—



TLC2932IPW (TI)
TLC2932IPW-E05

C-MOS VCO AND PHASE FREQUENCY DETECTOR
—TOP VIEW—

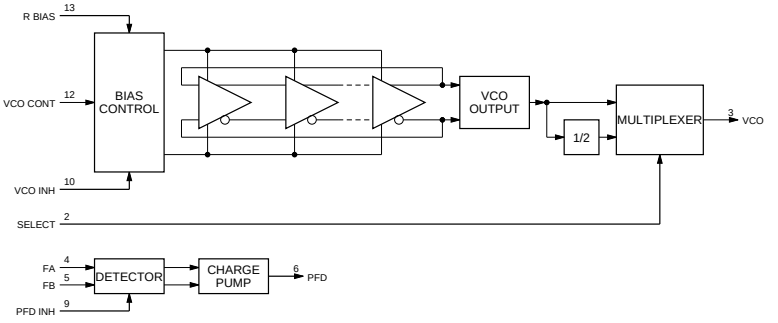


VDD1, 2 ; +3 or +5V
VDD1 ; FOR LOGIC
VDD2 ; FOR VCO
GND1 ; FOR LOGIC
GND2 ; FOR VCO

INPUT
FA ; REFERENCE FREQUENCY
FB ; INPUT FREQUENCY FROM OUTSIDE COUNTER
PFD INH ; PFD INHIBIT
SELECT ; VCO OUTPUT FREQUENCY SELECT
VCO CONT ; VCO CONTROL VOLTAGE
VCO INH ; VCO INHIBIT

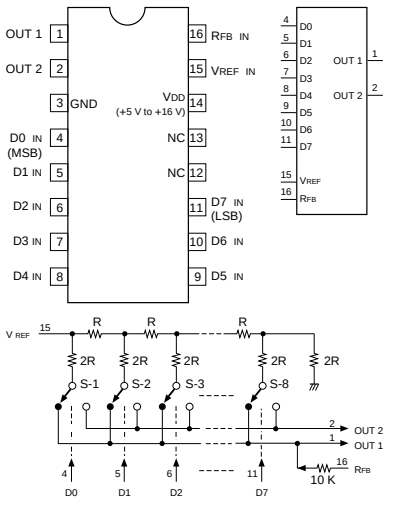
OUTPUT
PFD ; PHASE FREQUENCY DETECTOR
VCO ; VOLTAGE CONTROLLED OSCILLATOR

OTHER
R BIAS ; BIAS RESISTOR FOR VCO OSCILLATION FREQUENCY SETTING



XRD7523AIK-JTR (EXAR)FLAT PACKAGE

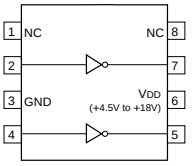
C-MOS 8-BIT D/A CONVERTER
—TOP VIEW—



MP7523 : R = 10 K
XRD7523 : R = 20 K

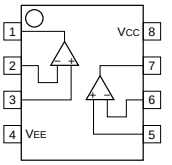
TSC426C0A (TELEDYNE)FLAT PACKAGE
TSC426C0A-T2

C-MOS HIGH SPEED DUAL DRIVER
—TOP VIEW—



UPC812G2 (NEC)FLAT PACKAGE
UPC812G2-E2

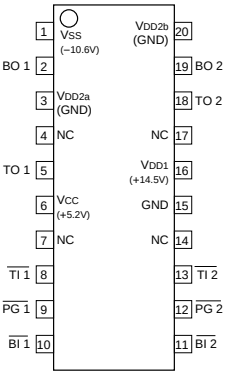
DUAL OPERATIONAL AMPLIFIERS
(DUAL-SUPPLY TYPE)
—TOP VIEW—

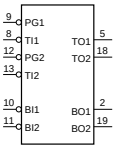


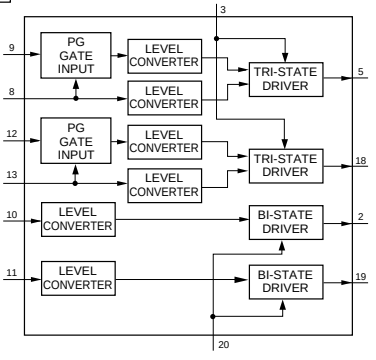
TYPE	VCC	VEE
062/072/082/4556A/ M5218/BA15218/ 33178/34182 TYPES	+2 to +16V	−2 to −16V
4580 TYPE	+2 to +18V	−2 to −18V
5532 TYPE	+3 to +20V	−3 to −20V
CXA1297 TYPE	+5 to +12V	−5 to −12V
M5219/M5220 TYPES	+5 to +22.5V	−5 to −22.5V
MC33077DR2	+2.5 to +18V	−2.5 to −18V
NJM2100 TYPE	+1 to +3.5V	−1 to −3.5V
OP-297 TYPE	+2 to +20V	−2 to −20V
OTHERS	+5 to +16V	−5 to −16V

UPD16502GS(1) (NEC)FLAT PACKAGE
UPD16502GS(1)-E2

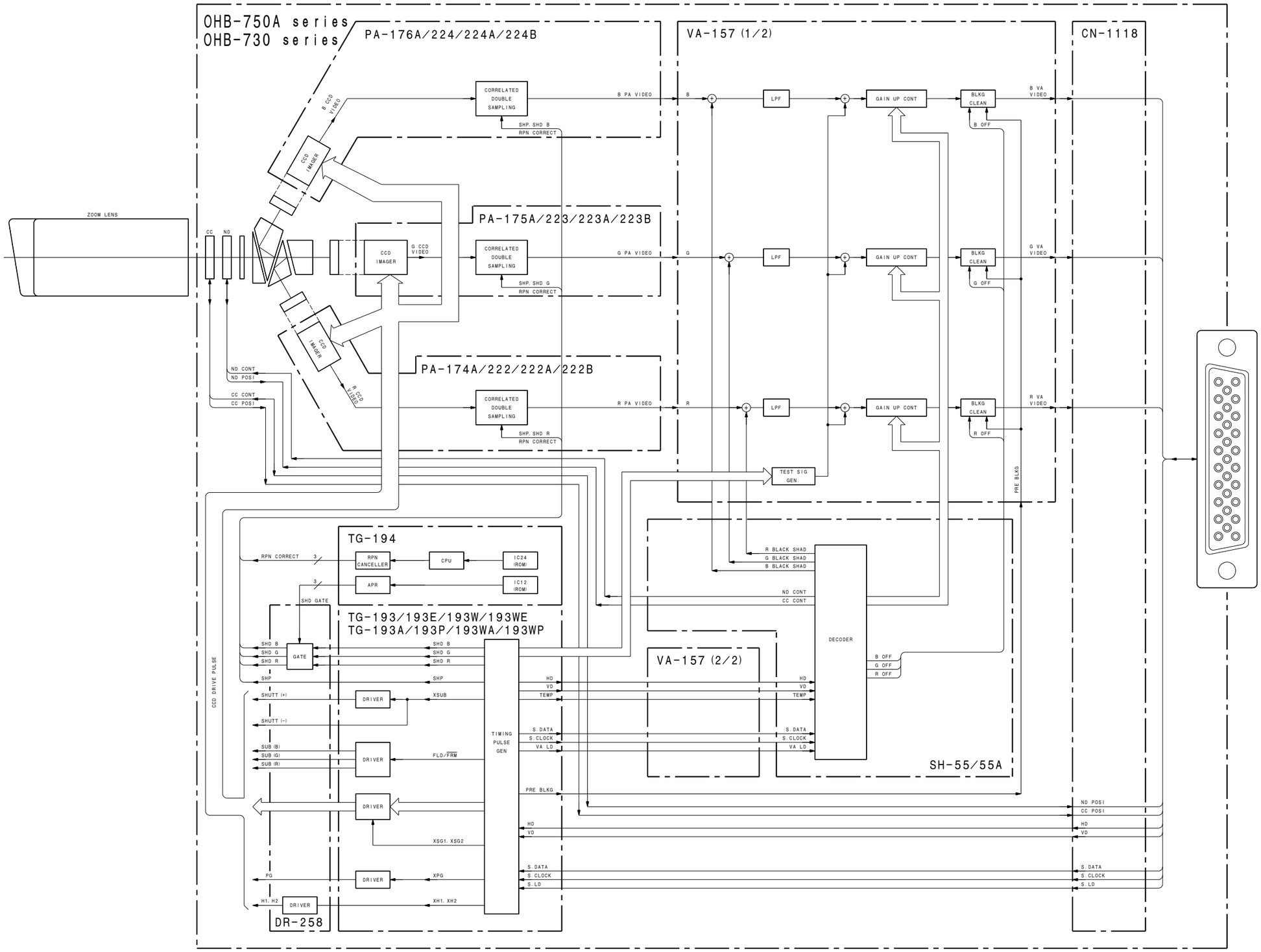
C-MOS CCD DRIVER
—TOP VIEW—





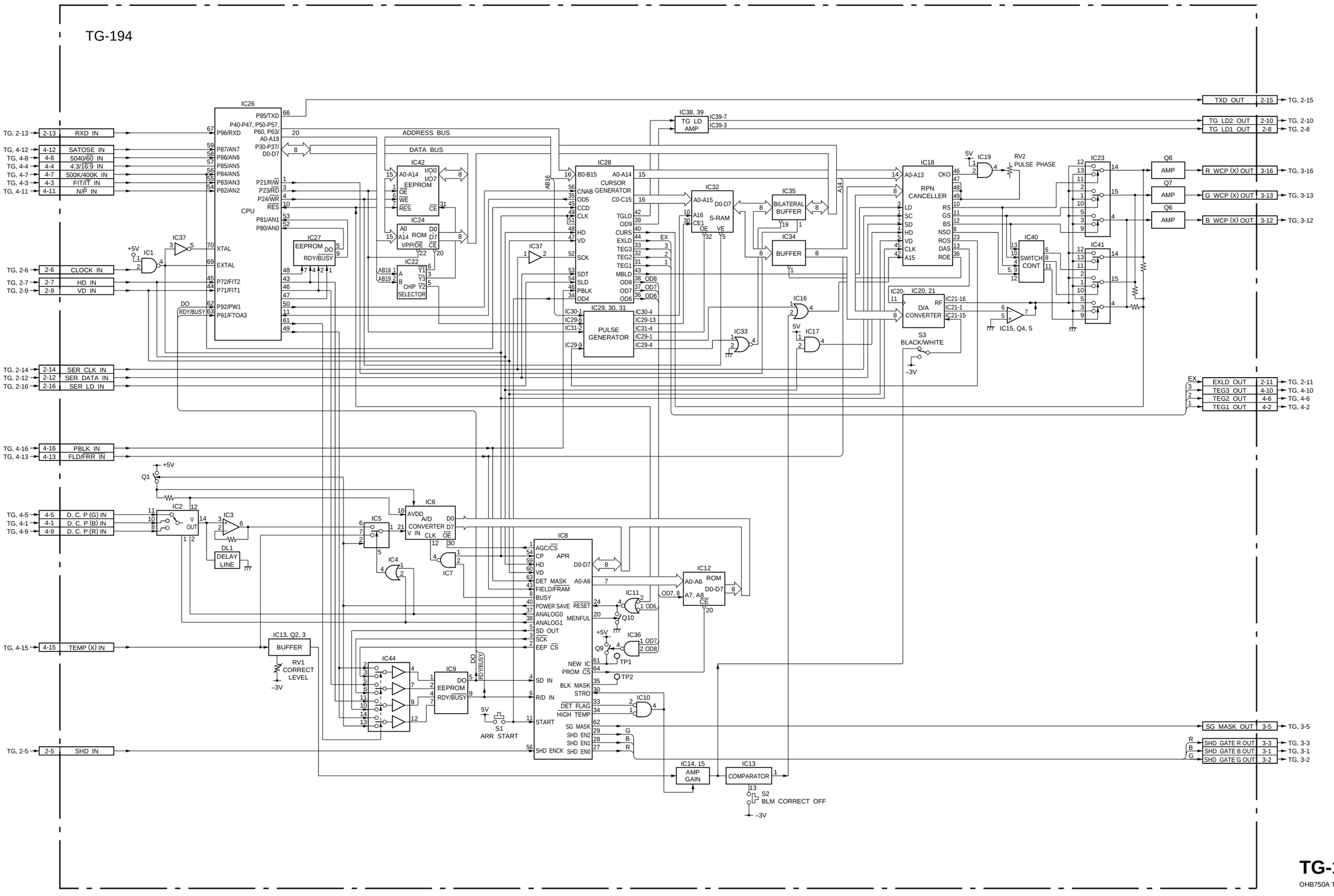


Section 5
Block Diagrams



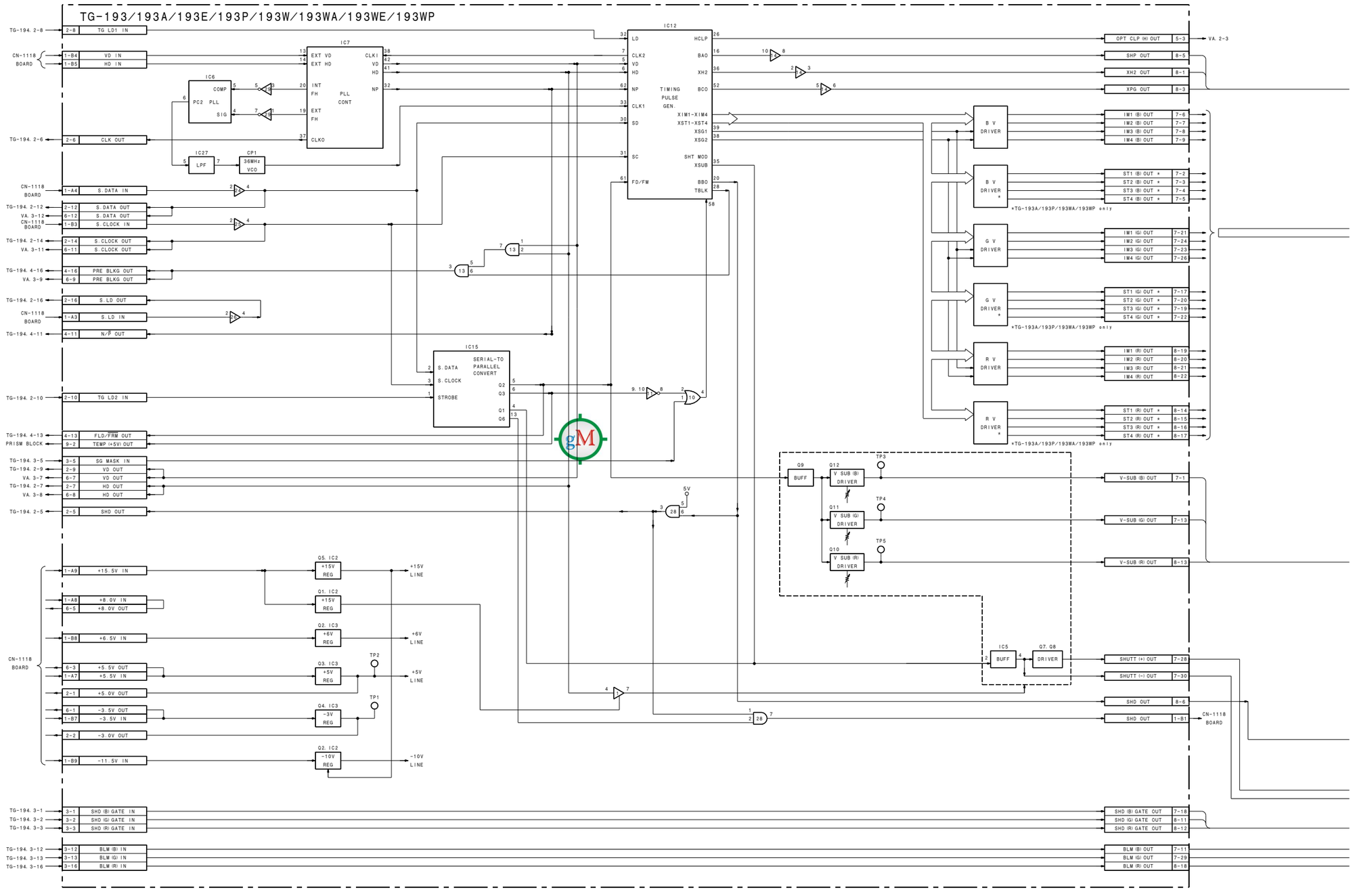
Overall

OHB750A OVERALL BLOCK/M

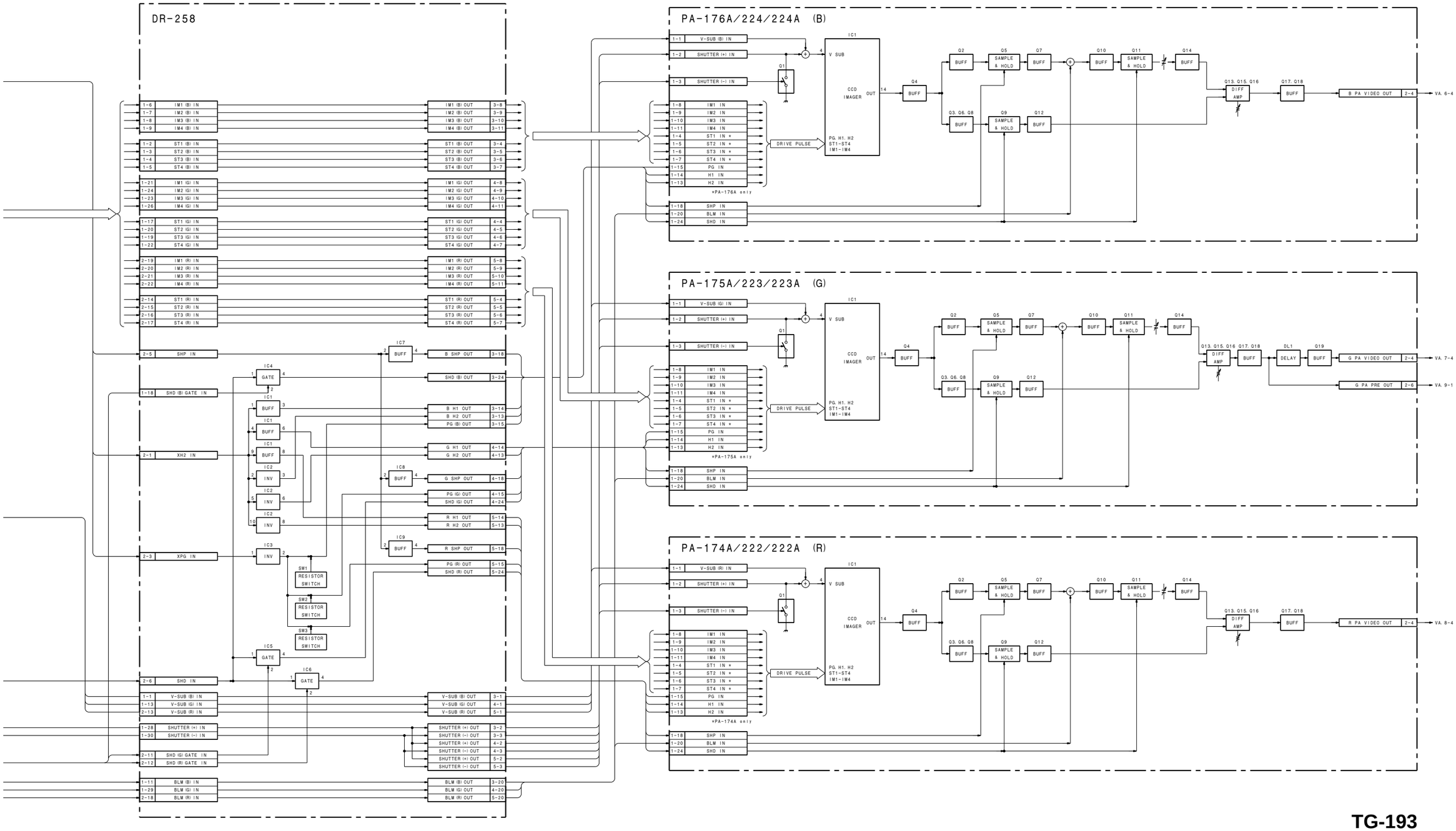


TG-194

OHB750A TG194 BLOCK/M


TG-193/193A/193E/193P/193W/193WA/193WE/193WP
IC12
IC7
IC6
IC15
IC27
CP1
IC5
Q5, IC2 +15V REG
Q1, IC2 +15V REG
Q2, IC3 +6V REG
Q3, IC3 +5V REG
Q4, IC3 -3V REG
Q2, IC2 -10V REG
+15V LINE
+6V LINE
+5V LINE
-10V LINE
TG-194. 2-8 2-8 TG LD1 IN
CN-1118 BOARD 1-B4 VD IN
1-B5 HD IN
TG-194. 2-6 2-6 CLK OUT
CN-1118 BOARD 1-A4 S.DATA IN
TG-194. 2-12 2-12 S.DATA OUT
VA. 3-12 6-12 S.DATA OUT
CN-1118 BOARD 1-B3 S.CLOCK IN
TG-194. 2-14 2-14 S.CLOCK OUT
VA. 3-11 6-11 S.CLOCK OUT
TG-194. 4-16 4-16 PRE BLKG OUT
VA. 3-9 6-9 PRE BLKG OUT
TG-194. 2-16 2-16 S.LD OUT
CN-1118 BOARD 1-A3 S.LD IN
TG-194. 4-11 4-11 N/P OUT
TG-194. 2-10 2-10 TG LD2 IN
TG-194. 4-13 4-13 FLD/FRM OUT
PRISM BLOCK 9-2 TEMP (+5V) OUT
TG-194. 3-5 3-5 SG MASK IN
TG-194. 2-9 2-9 VD OUT
VA. 3-7 6-7 VD OUT
TG-194. 2-7 2-7 HD OUT
VA. 3-8 6-8 HD OUT
TG-194. 2-5 2-5 SHD OUT
CN-1118 BOARD 1-A9 +15.5V IN
1-A8 +8.0V IN
6-5 +8.0V OUT
1-B8 +6.5V IN
6-3 +5.5V OUT
1-A7 +5.5V IN
2-1 +5.0V OUT
6-1 -3.5V OUT
1-B7 -3.5V IN
2-2 -3.0V OUT
1-B9 -11.5V IN
TG-194. 3-1 3-1 SHD (B) GATE IN
TG-194. 3-2 3-2 SHD (G) GATE IN
TG-194. 3-3 3-3 SHD (R) GATE IN
TG-194. 3-12 3-12 BLM (B) IN
TG-194. 3-13 3-13 BLM (G) IN
TG-194. 3-16 3-16 BLM (R) IN
OPT CLP (H) OUT 5-3
SHP OUT 8-5
XH2 OUT 8-1
XPG OUT 8-3
B V DRIVER
IM1 (B) OUT 7-6
IM2 (B) OUT 7-7
IM3 (B) OUT 7-8
IM4 (B) OUT 7-9
B V DRIVER * ST1 (B) OUT * 7-2
ST2 (B) OUT * 7-3
ST3 (B) OUT * 7-4
ST4 (B) OUT * 7-5
*TG-193A/193P/193WA/193WP only
G V DRIVER IM1 (G) OUT 7-21
IM2 (G) OUT 7-24
IM3 (G) OUT 7-23
IM4 (G) OUT 7-26
G V DRIVER * ST1 (G) OUT * 7-17
ST2 (G) OUT * 7-20
ST3 (G) OUT * 7-19
ST4 (G) OUT * 7-22
*TG-193A/193P/193WA/193WP only
R V DRIVER IM1 (R) OUT 8-19
IM2 (R) OUT 8-20
IM3 (R) OUT 8-21
IM4 (R) OUT 8-22
R V DRIVER * ST1 (R) OUT * 8-14
ST2 (R) OUT * 8-15
ST3 (R) OUT * 8-16
ST4 (R) OUT * 8-17
*TG-193A/193P/193WA/193WP only
Q9 BUFF
Q12 V SUB (B) DRIVER
Q11 V SUB (G) DRIVER
Q10 V SUB (R) DRIVER
TP3
TP4
TP5
V-SUB (B) OUT 7-1
V-SUB (G) OUT 7-13
V-SUB (R) OUT 8-13
IC5 BUFF
Q7, Q8 DRIVER
SHUTT (+) OUT 7-28
SHUTT (-) OUT 7-30
SHD OUT 8-6
SHD OUT 1-B1
CN-1118 BOARD
SHD (B) GATE OUT 7-18
SHD (G) GATE OUT 8-11
SHD (R) GATE OUT 8-12
BLM (B) OUT 7-11
BLM (G) OUT 7-29
BLM (R) OUT 8-18
VA. 2-3

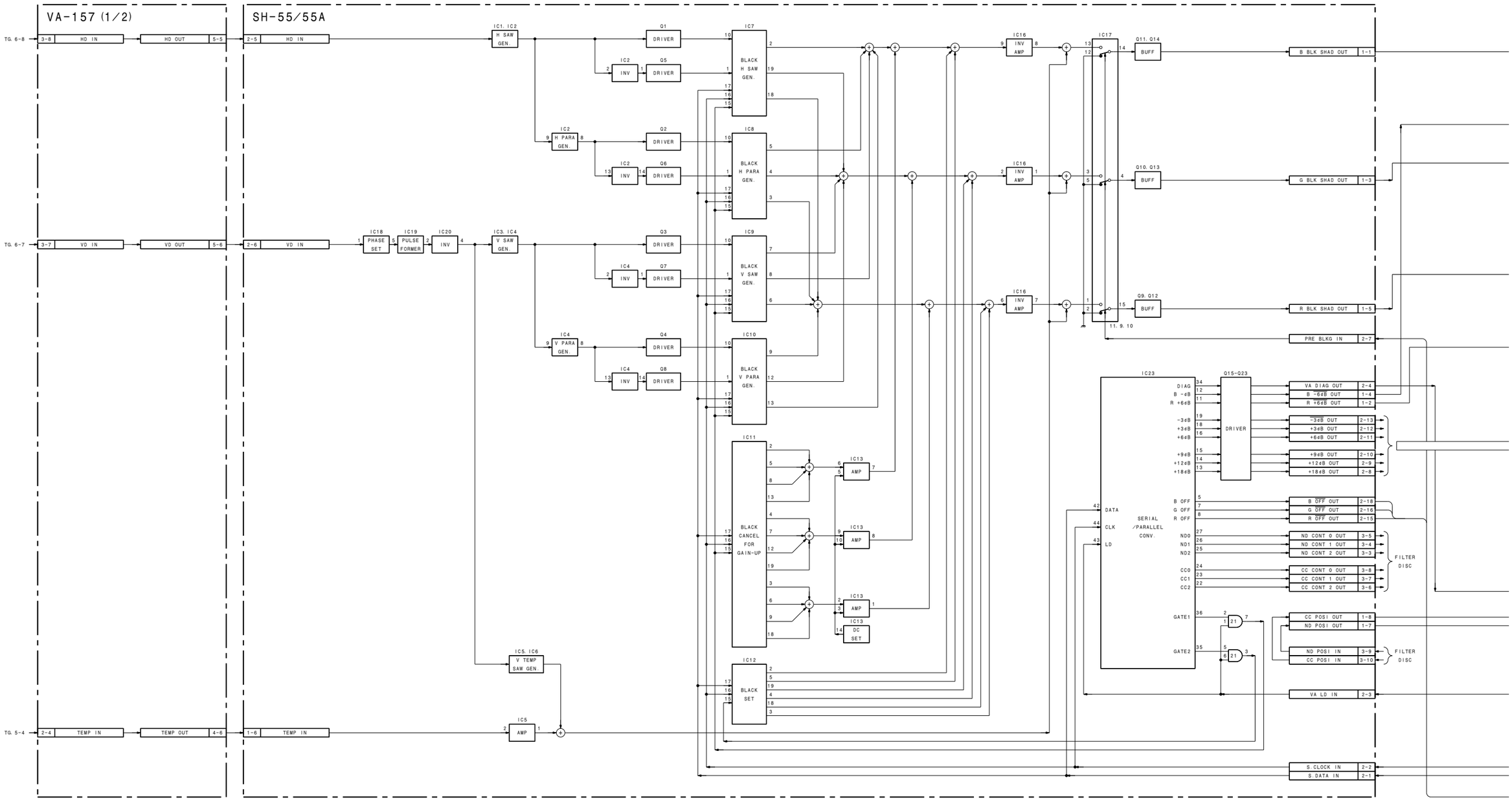
DR-258 PA-174/222 PA-175/223 PA-176/224 Block Diagram

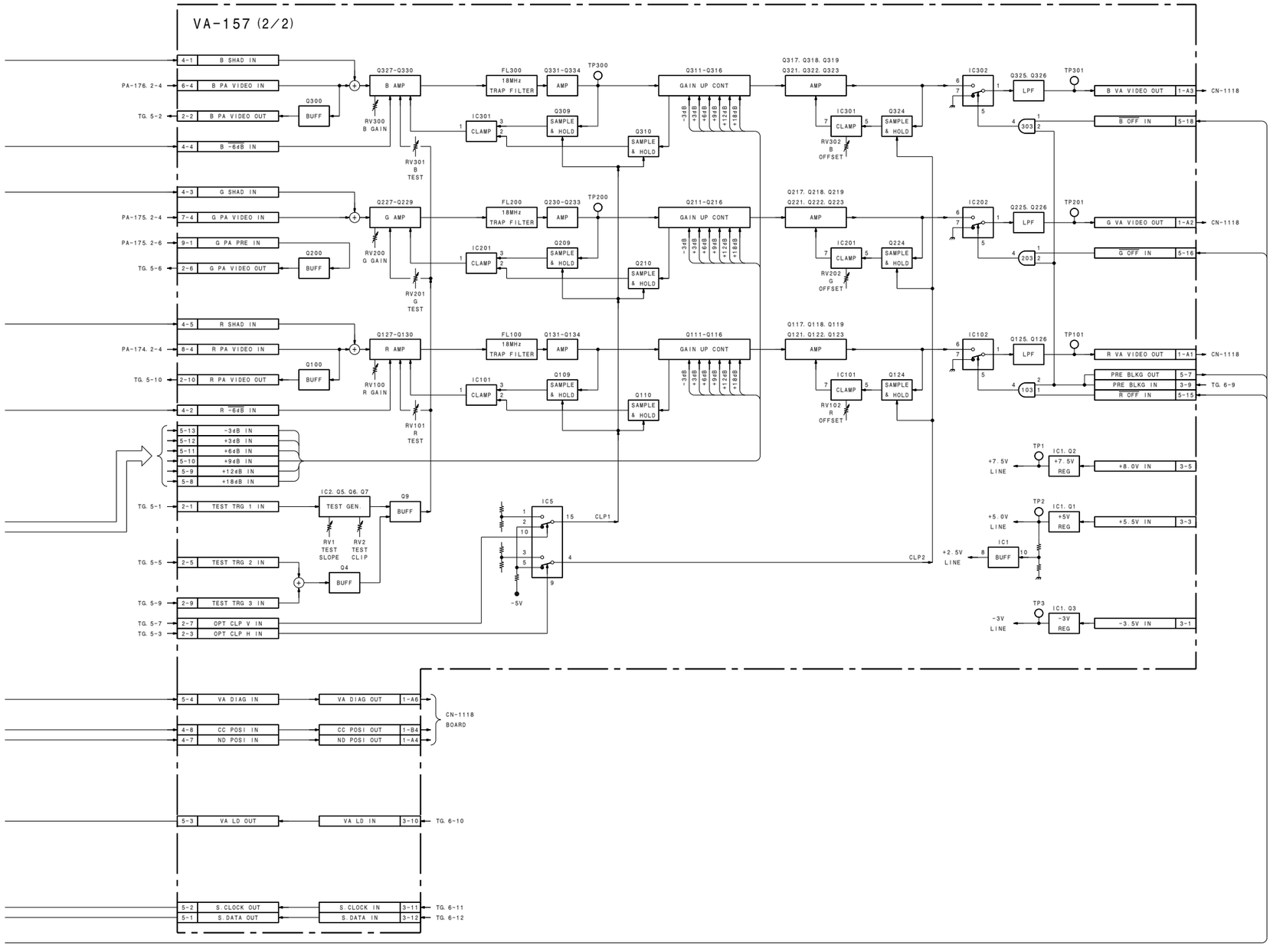


TG-193
PA-174/222
PA-175/223
PA-176/224

OHB750A-TG/DR/PA BLOCK/M

5-5


VA-157 (1/2)
SH-55/55A
TG. 6-8
3-8 HD IN
HD OUT 5-5
2-5 HD IN
TG. 6-7
3-7 VD IN
VD OUT 5-6
2-6 VD IN
TG. 5-4
2-4 TEMP IN
TEMP OUT 4-6
1-6 TEMP IN
IC1, IC2 H SAW GEN.
IC2 H PARA GEN.
IC18 PHASE SET
IC19 PULSE FORMER
IC20 INV
IC3, IC4 V SAW GEN.
IC4 V PARA GEN.
IC5, IC6 V TEMP SAW GEN.
IC5 AMP
IC2 INV
IC4 INV
Q1 DRIVER
Q5 DRIVER
Q2 DRIVER
Q6 DRIVER
Q3 DRIVER
Q7 DRIVER
Q4 DRIVER
Q8 DRIVER
IC7 BLACK H SAW GEN.
IC8 BLACK H PARA GEN.
IC9 BLACK V SAW GEN.
IC10 BLACK V PARA GEN.
IC11 BLACK CANCEL FOR GAIN-UP
IC12 BLACK SET
IC13 AMP
IC13 DC SET
IC16 INV AMP
IC17
Q11, Q14 BUFF
Q10, Q13 BUFF
Q9, Q12 BUFF
11, 9, 10
B BLK SHAD OUT 1-1
G BLK SHAD OUT 1-3
R BLK SHAD OUT 1-5
PRE BLKG IN 2-7
IC23 SERIAL /PARALLEL CONV.
DATA
CLK
LD
DIAG
B -6dB
R +6dB
-3dB
+3dB
+6dB
+9dB
+12dB
+18dB
Q15-Q23 DRIVER
VA DIAG OUT 2-4
B -6dB OUT 1-4
R +6dB OUT 1-2
-3dB OUT 2-13
+3dB OUT 2-12
+6dB OUT 2-11
+9dB OUT 2-10
+12dB OUT 2-9
+18dB OUT 2-8
B OFF
G OFF
R OFF
B OFF OUT 2-18
G OFF OUT 2-16
R OFF OUT 2-15
ND0
ND1
ND2
ND CONT 0 OUT 3-5
ND CONT 1 OUT 3-4
ND CONT 2 OUT 3-3
FILTER DISC
CC0
CC1
CC2
CC CONT 0 OUT 3-8
CC CONT 1 OUT 3-7
CC CONT 2 OUT 3-6
GATE1
GATE2
CC POSI OUT 1-8
ND POSI OUT 1-7
ND POSI IN 3-9
CC POSI IN 3-10
FILTER DISC
VA LD IN 2-3
S.CLOCK IN 2-2
S.DATA IN 2-1



VA-157
SH-55

OHB750A SH/VA BLOCK/M

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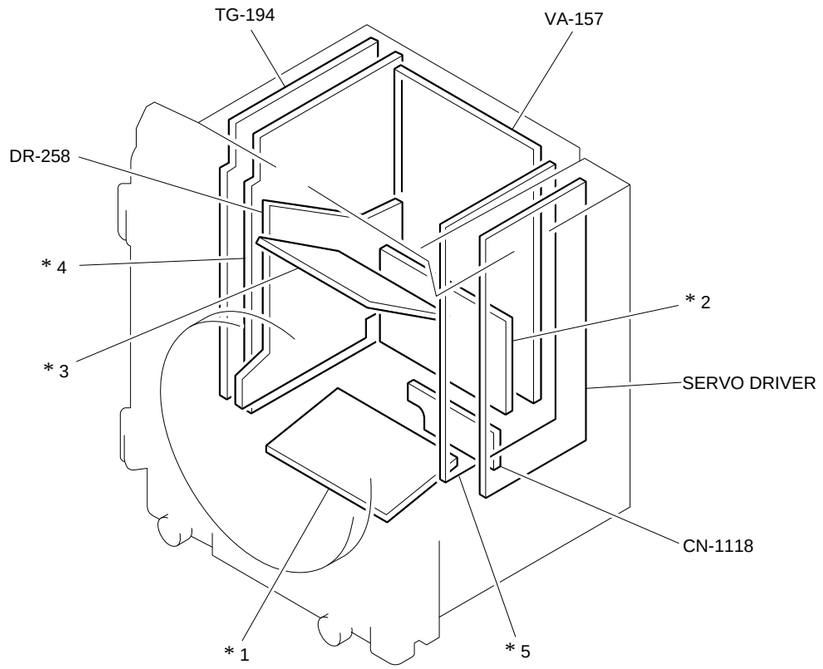
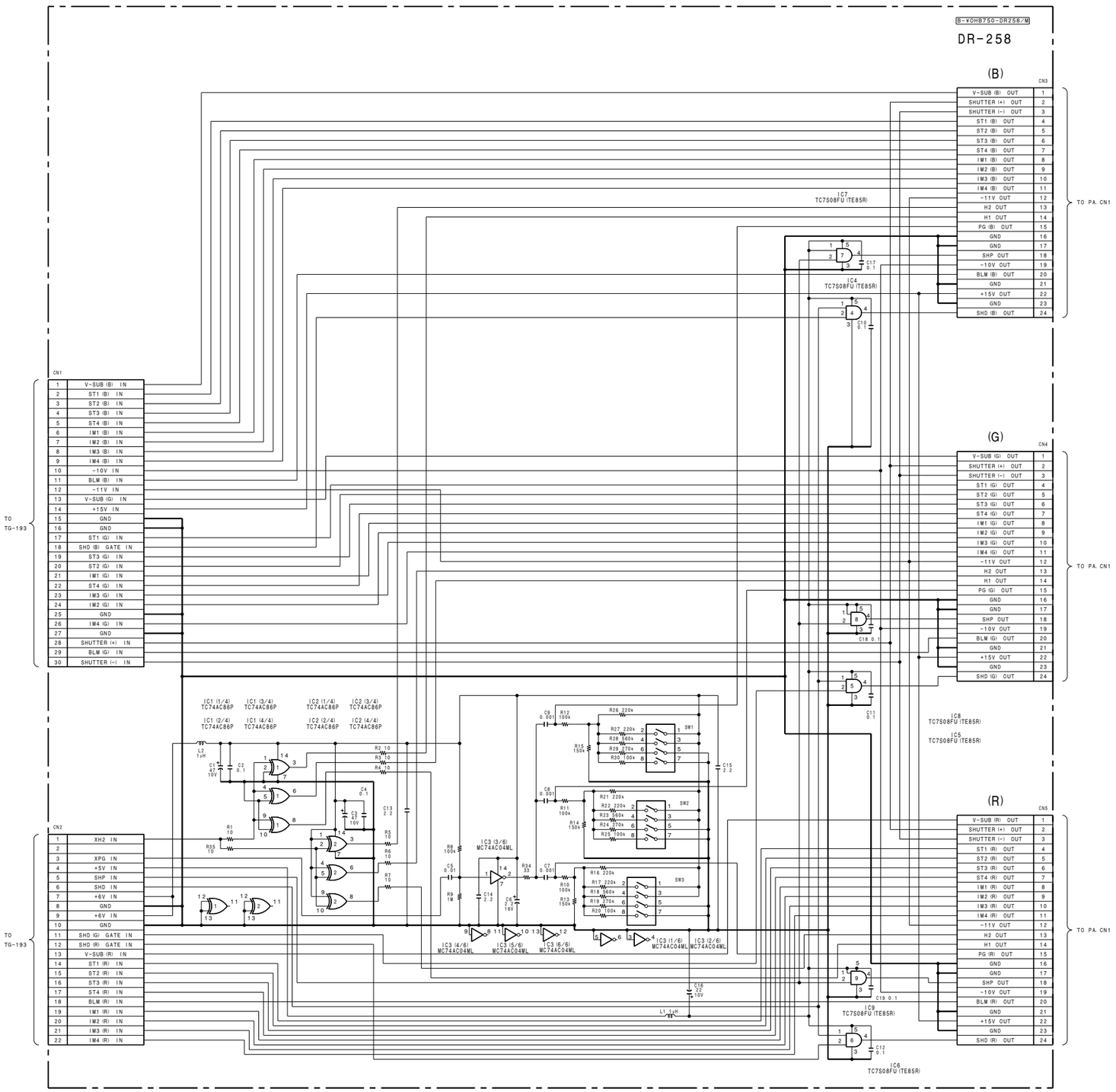
Section 6
Schematic Diagrams

Location of Printed Circuit Boards

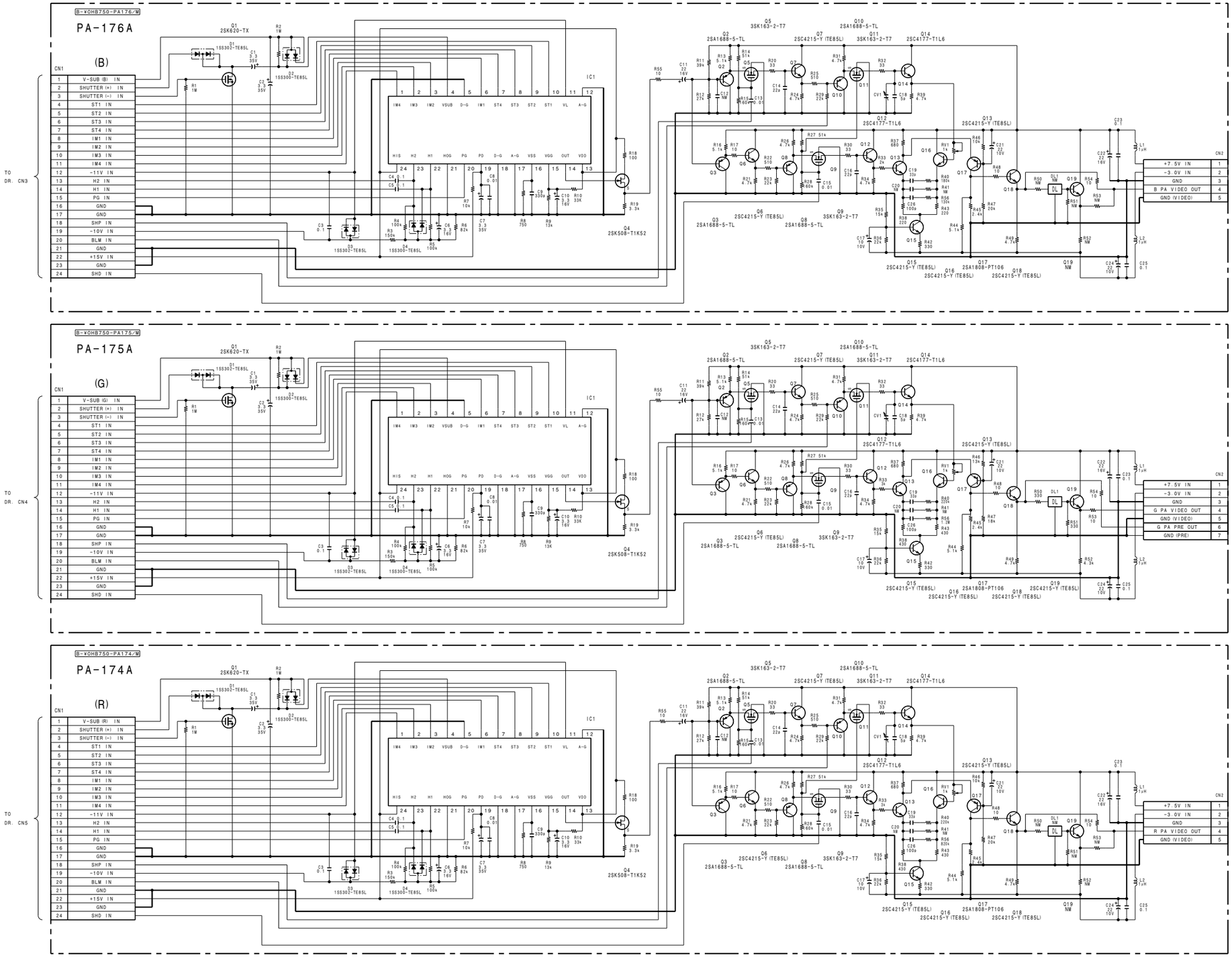


* Note

Model	Serial No.	*1	*2	*3	*4	*5
OHB-750A	All	PA-174A	PA-175A	PA-176A	TG-193A	SH-55
OHB-750AP	All	PA-174A	PA-175A	PA-176A	TG-193P	SH-55
OHB-750WSA	All	PA-174A	PA-175A	PA-176A	TG-193WA	SH-55
OHB-750WSAP	All	PA-174A	PA-175A	PA-176A	TG-193WP	SH-55
OHB-730	10031 and higher 10001 thru 10030	PA-222B PA-222	PA-223B PA-223	PA-224B PA-224	TG-193 TG-193	SH-55A SH-55
OHB-730P	40011 and higher 40001 thru 40010	PA-222B PA-222	PA-223B PA-223	PA-224B PA-224	TG-193E TG-193E	SH-55A SH-55
OHB-730WS	10026 and higher 10001 thru 10025	PA-222A PA-222A	PA-223A PA-223A	PA-224A PA-224A	TG-193W TG-193W	SH-55A SH-55
OHB-730WP	40021 and higher 40001 thru 40020	PA-222A PA-222A	PA-223A PA-223A	PA-224A PA-224A	TG-193WE TG-193WE	SH-55A SH-55



DR-258
BOARD NO. 1-653-476-12
LOT NO. 709-
B-¥OHB750-DR258/M



PA-176A
BOARD NO. 1-653-479-12
LOT NO. 709-
B-¥OHB750-PA176/M

PA-175A
BOARD NO. 1-653-478-12
LOT NO. 709-
B-¥OHB750-PA175/M

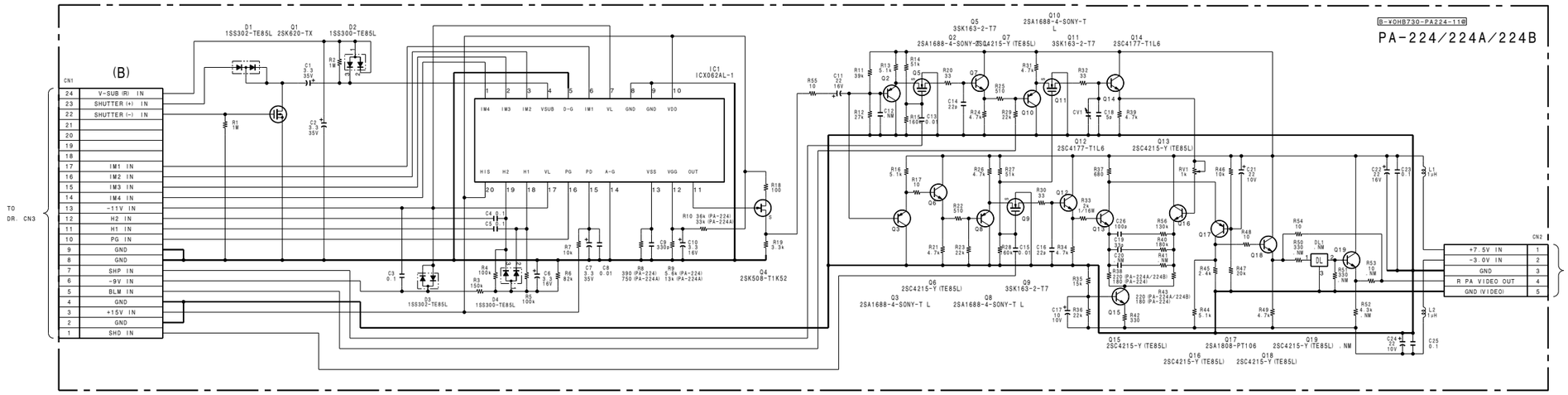
PA-174A
BOARD NO. 1-653-477-12
LOT NO. 709-
B-¥OHB750-PA174/M

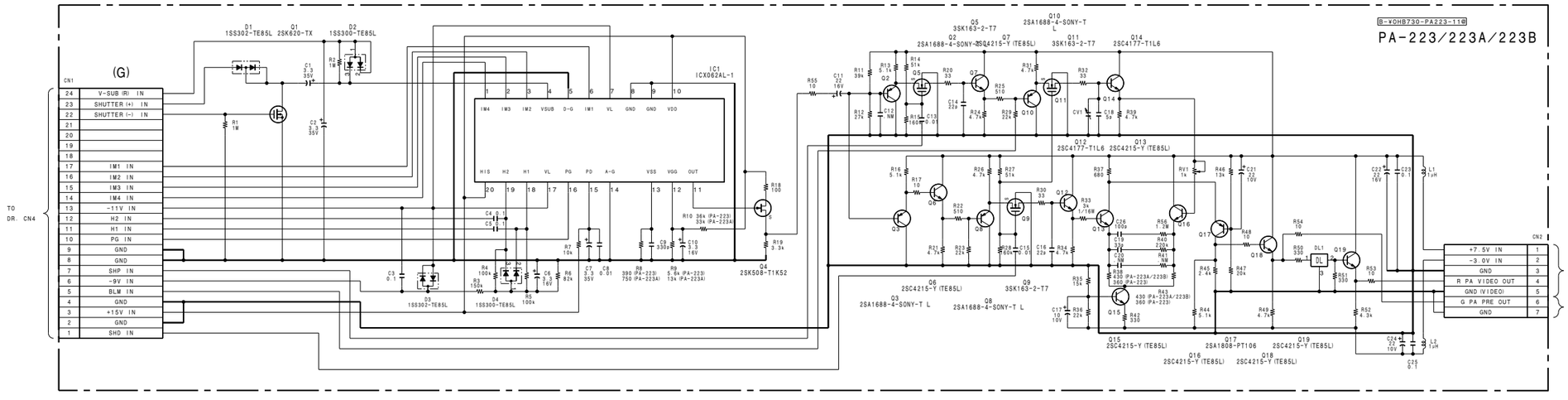
OHB-730/730WS & PAL
OHB-750A/750WSA & PAL

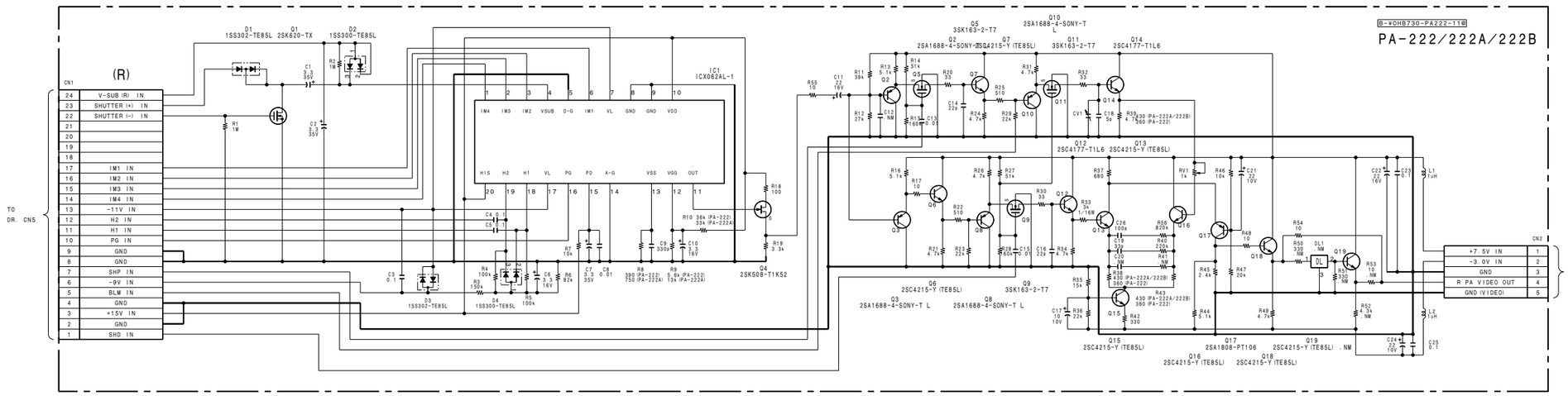
6-3 6-3

A B C D E F G H

1 2 3 4 5



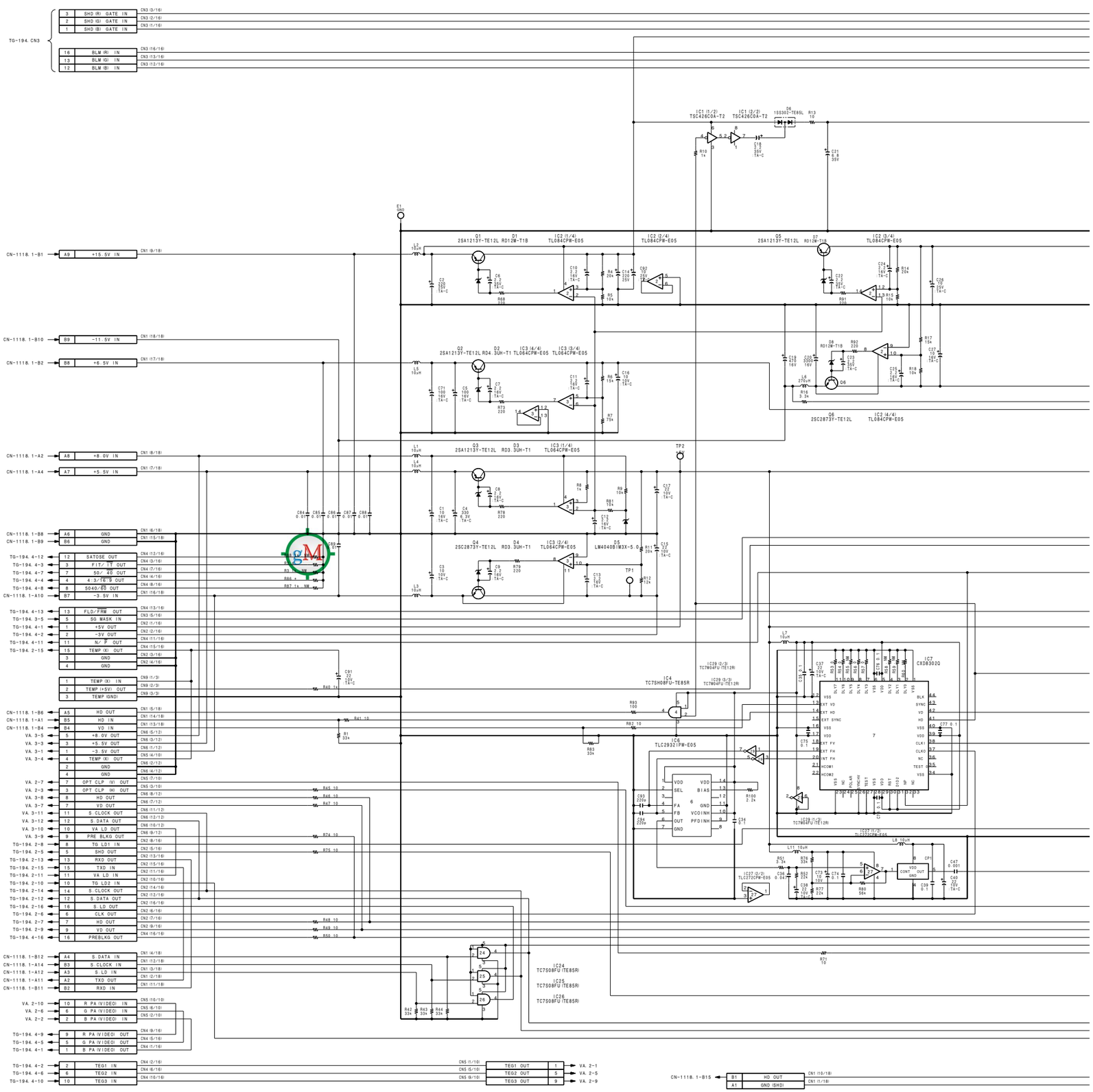




PA-224/224A/224B
BOARD NO. 1-669-076-11
LOT NO. 709-
B-¥OHB730-PA224-11@

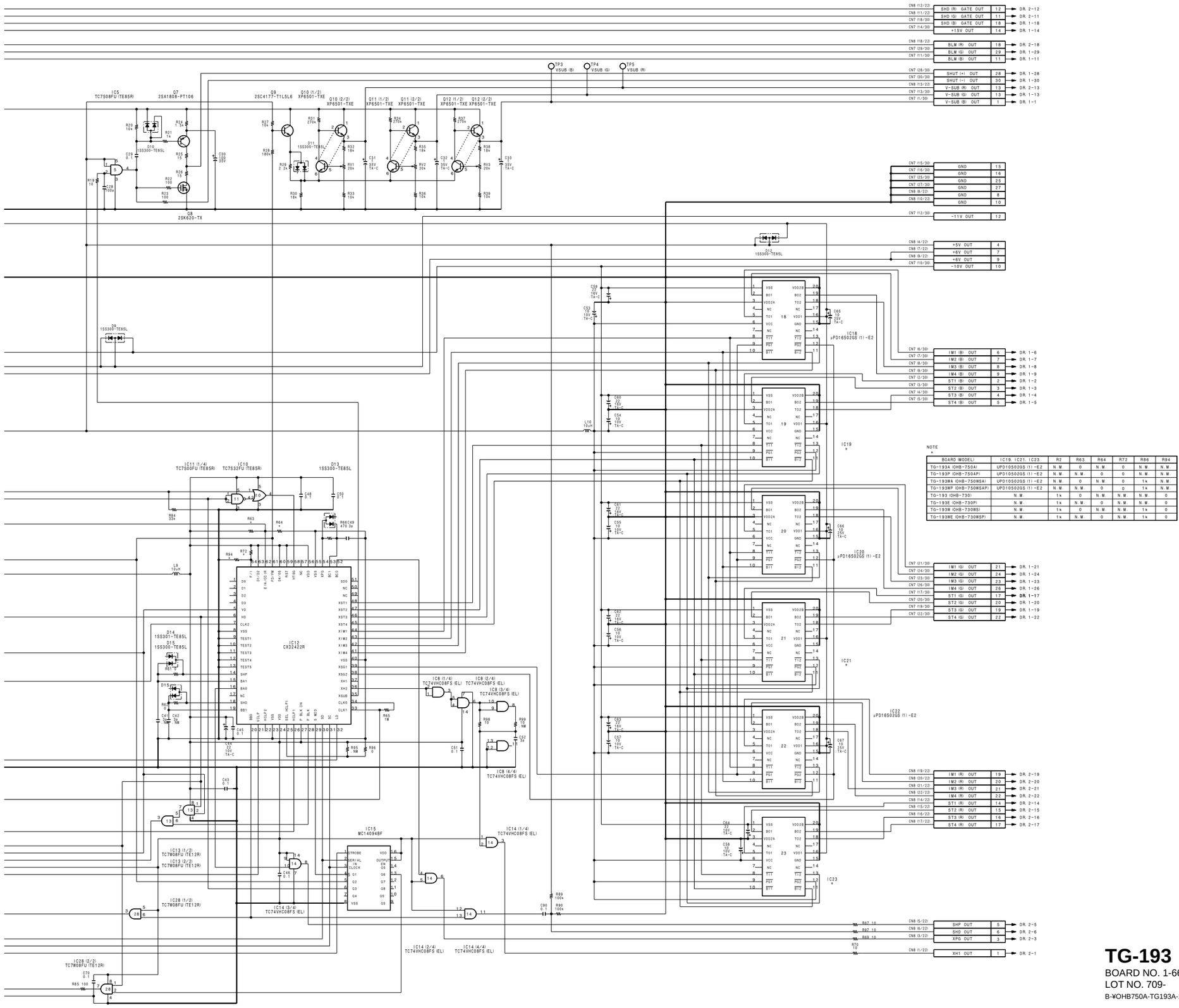
PA-223/223A/223B
BOARD NO. 1-669-075-11
LOT NO. 709-
B-¥OHB730-PA223-11@

PA-222/222A/222B
BOARD NO. 1-669-074-11
LOT NO. 709-
B-¥OHB730-PA222-11@


TG-194. CN3
3 SHD (R) GATE IN
2 SHD (G) GATE IN
1 SHD (B) GATE IN
16 BLM (R) IN
13 BLM (G) IN
12 BLM (B) IN
CN-1118. 1-B1 A9 +15. 5V IN
CN-1118. 1-B10 B9 -11. 5V IN
CN-1118. 1-B2 B8 +6. 5V IN
CN-1118. 1-A2 A8 +8. 0V IN
CN-1118. 1-A4 A7 +5. 5V IN
CN-1118. 1-B8 A6 GND
CN-1118. 1-B9 B6 GND
TG-194. 4-12 12 SATOSE OUT
TG-194. 4-3 3 FIT/ 17 OUT
TG-194. 4-7 7 50/ 40 OUT
TG-194. 4-4 4 4. 3/16. 9 OUT
TG-194. 4-8 8 5040/60 OUT
CN-1118. 1-A10 B7 -3. 5V IN
TG-194. 4-13 13 FLD/FRM OUT
TG-194. 3-5 5 SG MASK IN
TG-194. 4-1 1 +5V OUT
TG-194. 4-2 2 -3V OUT
TG-194. 4-11 11 N/ P OUT
TG-194. 2-15 15 TEMP (X) OUT
3 GND
4 GND
1 TEMP (X) IN
2 TEMP (+5V) OUT
3 TEMP (GND)
CN-1118. 1-B6 A5 HD OUT
CN-1118. 1-A1 B5 HD IN
CN-1118. 1-B4 B4 VD IN
VA. 3-5 5 +8. 0V OUT
VA. 3-3 3 +5. 5V OUT
VA. 3-1 1 -3. 5V OUT
VA. 3-4 4 TEMP (X) OUT
2 GND
4 GND
VA. 2-7 7 OPT CLP (V) OUT
VA. 2-3 3 OPT CLP (H) OUT
VA. 3-8 8 HD OUT
VA. 3-7 7 VD OUT
VA. 3-11 11 S. CLOCK OUT
VA. 3-12 12 S. DATA OUT
VA. 3-10 10 VA LD OUT
VA. 3-9 9 PRE BLKG OUT
TG-194. 2-8 8 TG LD1 IN
TG-194. 2-5 5 SHD OUT
TG-194. 2-13 13 RXD OUT
TG-194. 2-15 15 TXD IN
TG-194. 2-11 11 VA LD IN
TG-194. 2-10 10 TG LD2 IN
TG-194. 2-14 14 S. CLOCK OUT
TG-194. 2-12 12 S. DATA OUT
TG-194. 2-16 16 S. LD OUT
TG-194. 2-6 6 CLK OUT
TG-194. 2-7 7 HD OUT
TG-194. 2-9 9 VD OUT
TG-194. 4-16 16 PREBLKG OUT
CN-1118. 1-B12 A4 S. DATA IN
CN-1118. 1-A14 B3 S. CLOCK IN
CN-1118. 1-A12 A3 S. LD IN
CN-1118. 1-A11 A2 TXD OUT
CN-1118. 1-B11 B2 RXD IN
VA. 2-10 10 R PA (VIDEO) IN
VA. 2-6 6 G PA (VIDEO) IN
VA. 2-2 2 B PA (VIDEO) IN
TG-194. 4-9 9 R PA (VIDEO) OUT
TG-194. 4-5 5 G PA (VIDEO) OUT
TG-194. 4-1 1 B PA (VIDEO) OUT
TG-194. 4-2 2 TEG1 IN
TG-194. 4-6 6 TEG2 IN
TG-194. 4-10 10 TEG3 IN
TEG1 OUT 1 VA. 2-1
TEG2 OUT 5 VA. 2-5
TEG3 OUT 9 VA. 2-9
CN-1118. 1-B15 B1 HD OUT
A1 GND (SHD)
IC1 (1/2) TSC426C0A-T2
IC1 (2/2) TSC426C0A-T2
D6 1SS393-TE85L
IC2 (1/4) TL084CPW-E05
IC2 (2/4) TL084CPW-E05
IC2 (3/4) TL084CPW-E05
IC2 (4/4) TL084CPW-E05
IC3 (1/4) TL084CPW-E05
IC3 (2/4) TL084CPW-E05
IC3 (3/4) TL084CPW-E05
IC3 (4/4) TL084CPW-E05
Q1 2SA1213Y-TE12L
Q2 2SA1213Y-TE12L
Q3 2SA1213Y-TE12L
Q4 2SC2873Y-TE12L
Q5 2SA1213Y-TE12L
Q6 2SC2873Y-TE12L
D1 RD12M-T1B
D2 RD4. 3UH-T1
D3 RD3. 3UH-T1
D4 RD3. 3UH-T1
D7 RD12M-T1B
D8 RD12M-T1B
IC4 TC7SH08FU-TE85R
IC6 TLC29321PW-E05
IC7 CX08302Q
IC24 TC7S08FU(TE85R)
IC25 TC7S08FU(TE85R)
IC26 TC7S08FU(TE85R)
IC27 (1/2) TLC272CPW-E05
IC27 (2/2) TLC272CPW-E05
IC28 (1/3) TC7W04FU(TE12R)
IC28 (2/3) TC7W04FU(TE12R)
IC28 (3/3) TC7W04FU(TE12R)
IC29 (1/3) TC7W04FU(TE12R)
IC29 (2/3) TC7W04FU(TE12R)
IC29 (3/3) TC7W04FU(TE12R)
TP1
TP2

6-6 6-6

OHB-730/730WS & PAL
OHB-750A/750WSA & PAL



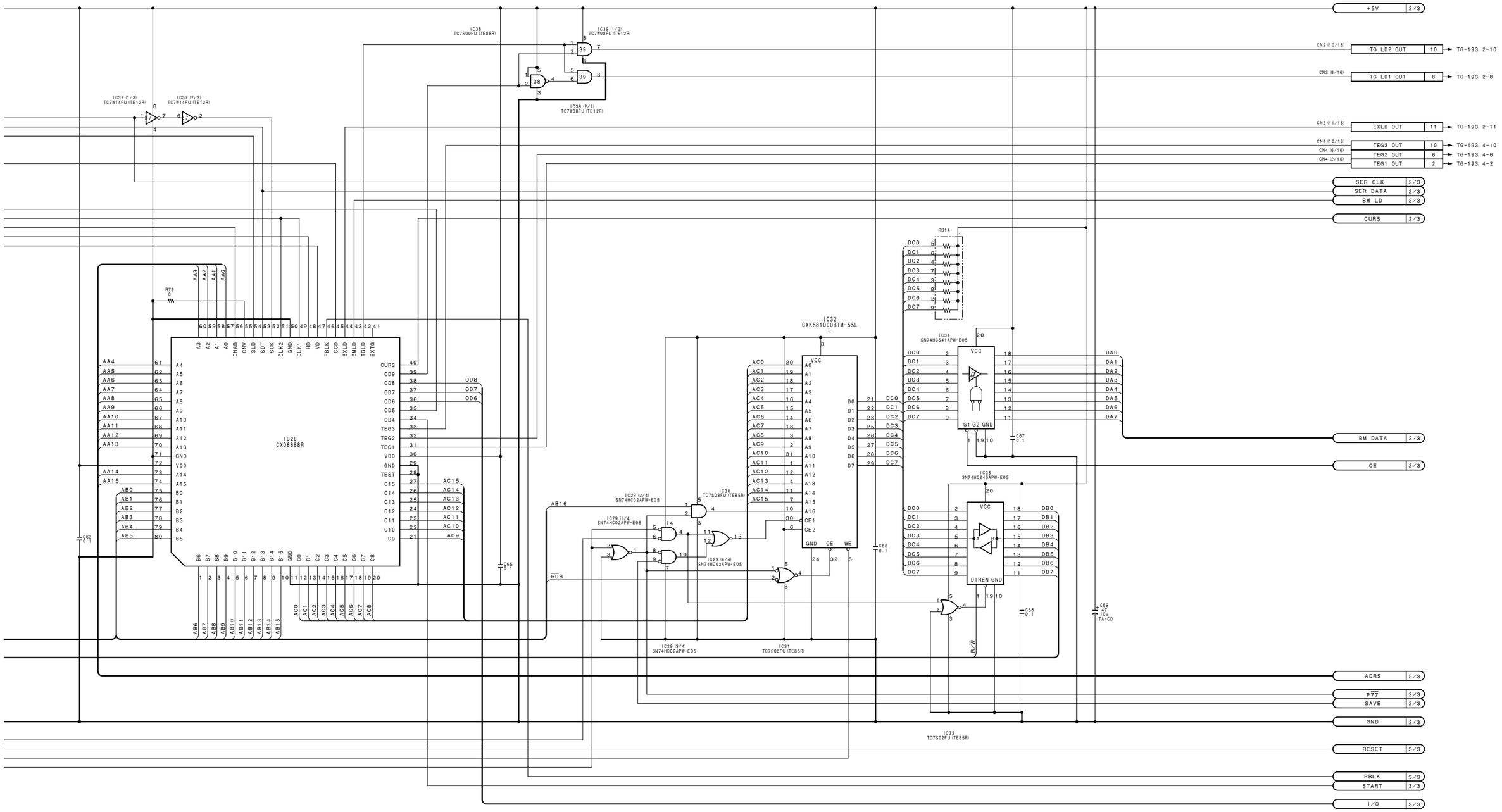
NOTE
*

BOARD MODEL	IC19, IC21, IC23	R2	R63	R64	R72	R86	R94
TG-193A (OHB-750A)	UPD10502GS (1) -E2	N.M.	0	N.M.	0	N.M.	N.M.
TG-193P (OHB-750AP)	UPD10502GS (1) -E2	N.M.	N.M.	0	0	N.M.	N.M.
TG-193WA (OHB-750WSA)	UPD10502GS (1) -E2	N.M.	0	N.M.	0	1k	N.M.
TG-193WP (OHB-750WSAP)	UPD10502GS (1) -E2	N.M.	N.M.	0	0	1k	N.M.
TG-193 (OHB-730)	N.M.	1k	0	N.M.	N.M.	N.M.	0
TG-193E (OHB-730P)	N.M.	1k	N.M.	0	N.M.	N.M.	0
TG-193W (OHB-730WS)	N.M.	1k	0	N.M.	N.M.	1k	0
TG-193WE (OHB-730WSP)	N.M.	1k	N.M.	0	N.M.	1k	0

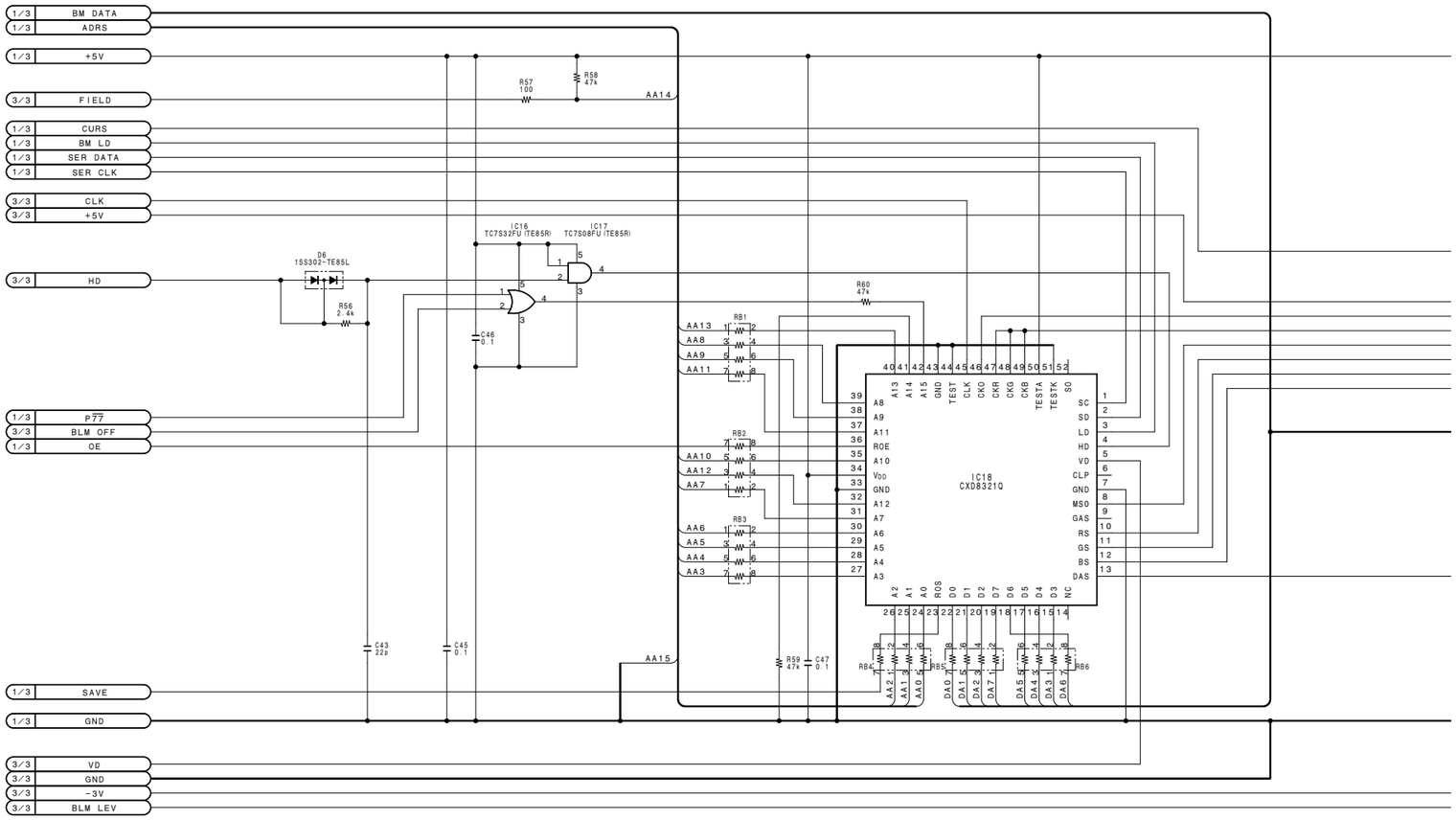
TG-193
BOARD NO. 1-667-988-11, 12
LOT NO. 709-
B-¥OHB750A-TG193A-11@

OHB-730/730WS & PAL
OHB-750A/750WSA & PAL

3/3 +5V
TG-193. 4-4 4 4:3/16:9 IN CN4 (4/16)
TG-193. 4-8 8 5040/60 IN CN4 (8/16)
TG-193. 4-12 12 SATOSE IN CN4 (12/16)
TG-193. 2-14 14 SER CLK IN CN2 (14/16)
TG-193. 2-12 12 SER DATA IN CN2 (12/16)
TG-193. 2-16 16 SER LD IN CN2 (16/16)
TG-193. 4-11 11 N/P IN CN4 (11/16)
TG-193. 4-3 3 FIT/IT IN CN4 (3/16)
TG-193. 4-7 7 500K/400K IN CN4 (7/16)
TG-193. 2-15 15 TXD OUT CN2 (15/16)
TG-193. 2-13 13 RXD IN CN2 (13/16)
IC42 HN58C257AT-10
IC24 AT27C512R-15RC
IC22 TC7W139FU (TE12R)
IC37 (3/3) TC7W14FU (TE12R)
IC26 HD6475328F10
IC27 M6M80041FP-T2
R77 47k
R78 47k
RB8
RB9
RB10
RB11
RB12
RB13
C1 0.1
C2 0.1
C44 22 10V
C59 0.1
C60 0.1
C61 0.1
C62 0.1 25V
3/3 P90
3/3 P91
3/3 P92
3/3 CLK
3/3 P72
3/3 P71
3/3 P76
3/3 P73
3/3 P70



TG-194 (1/3)
BOARD NO. 1-667-999-11
LOT NO. 709-
B-¥OHB750A-TG194-12@-M


1/3 BM DATA
1/3 ADRS
1/3 +5V
3/3 FIELD
1/3 CURS
1/3 BM LD
1/3 SER DATA
1/3 SER CLK
3/3 CLK
3/3 +5V
3/3 HD
1/3 P77
3/3 BLM OFF
1/3 OE
1/3 SAVE
1/3 GND
3/3 VD
3/3 GND
3/3 -3V
3/3 BLM LEV
R57 100
R58 47k
AA14
IC16 TC7S32FU (TE85R)
IC17 TC7S08FU (TE85R)
D6 1SS302-TE85L
R56 2.4k
C46 0.1
R60 47k
RB1
RB2
RB3
AA13
AA8
AA9
AA11
AA10
AA12
AA7
AA6
AA5
AA4
AA3
IC18 CXD8321Q
A8 A9 A11 ROE A10 VDD GND A12 A7 A6 A5 A4 A3
SC SD LD HD VD CLP GND MSO GAS RS GS BS DAS
A2 A1 A0 ROS D0 D1 D2 D7 D6 D5 D4 D3 NC
TEST CLK CKO CKR CKG CKB TESTA TESTK SO
C43 22p
C45 0.1
R59 47k
C47 0.1
AA15
RB4
RB5
RB6
DA0 DA1 DA2 DA7 DA5 DA4 DA3 DA6

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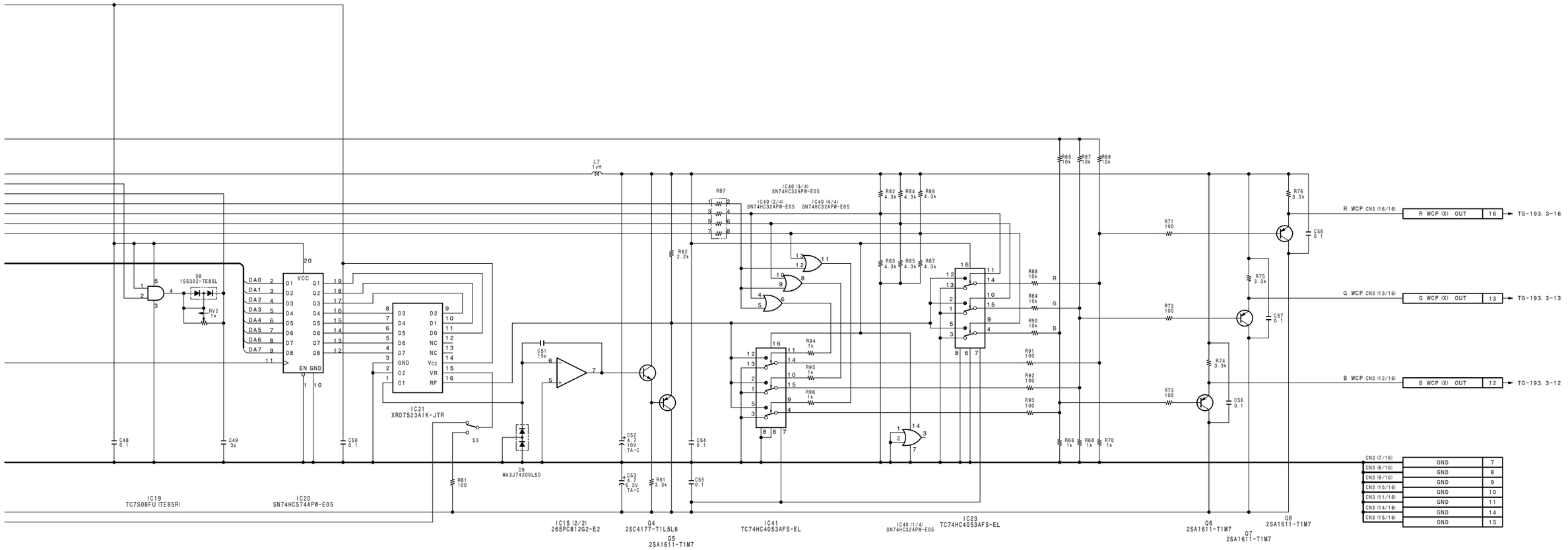
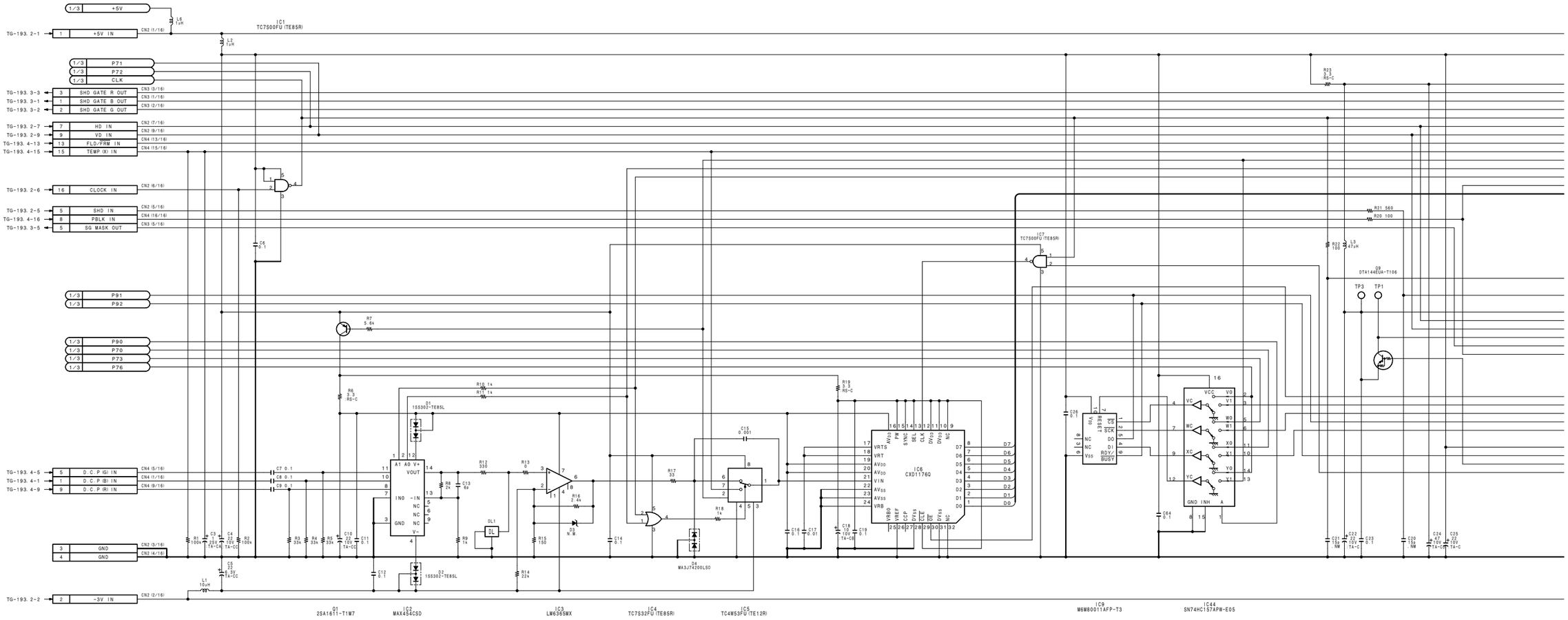
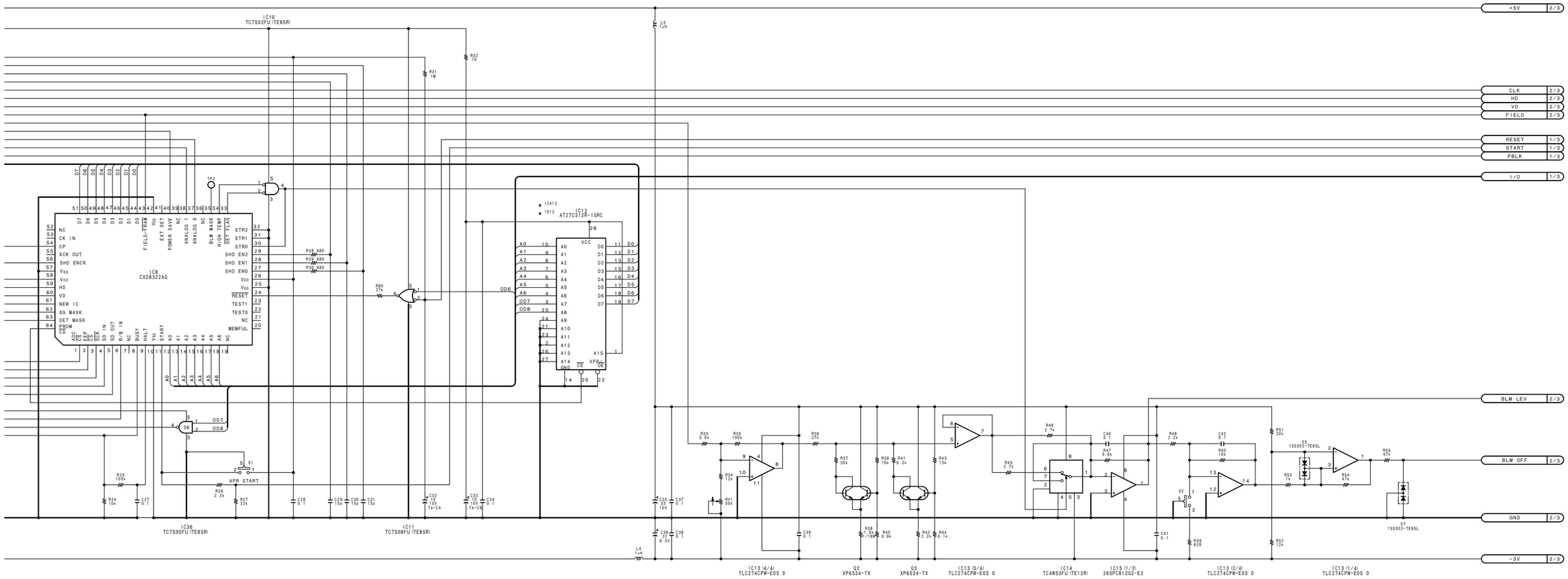


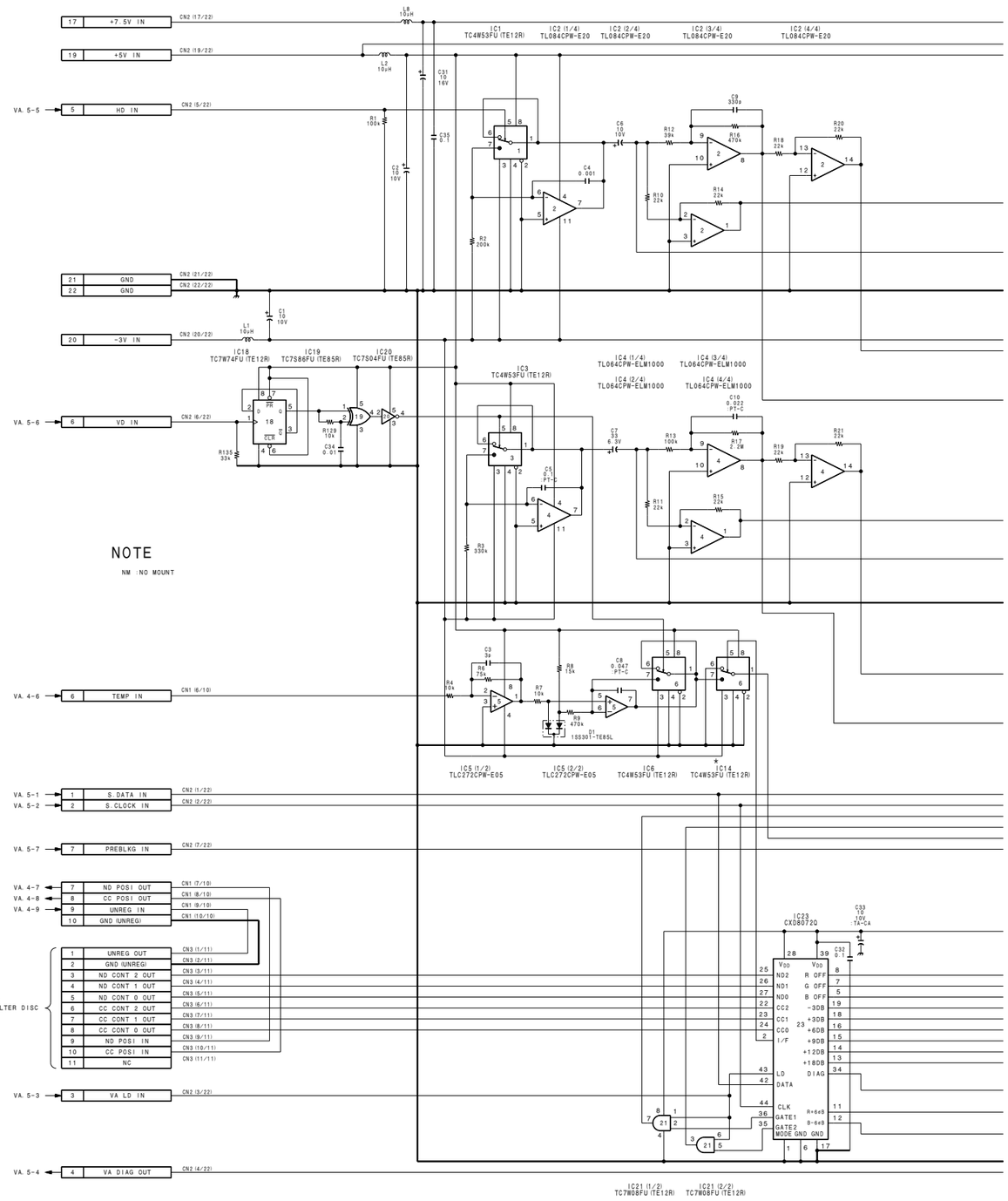
TG-194 (2/3)

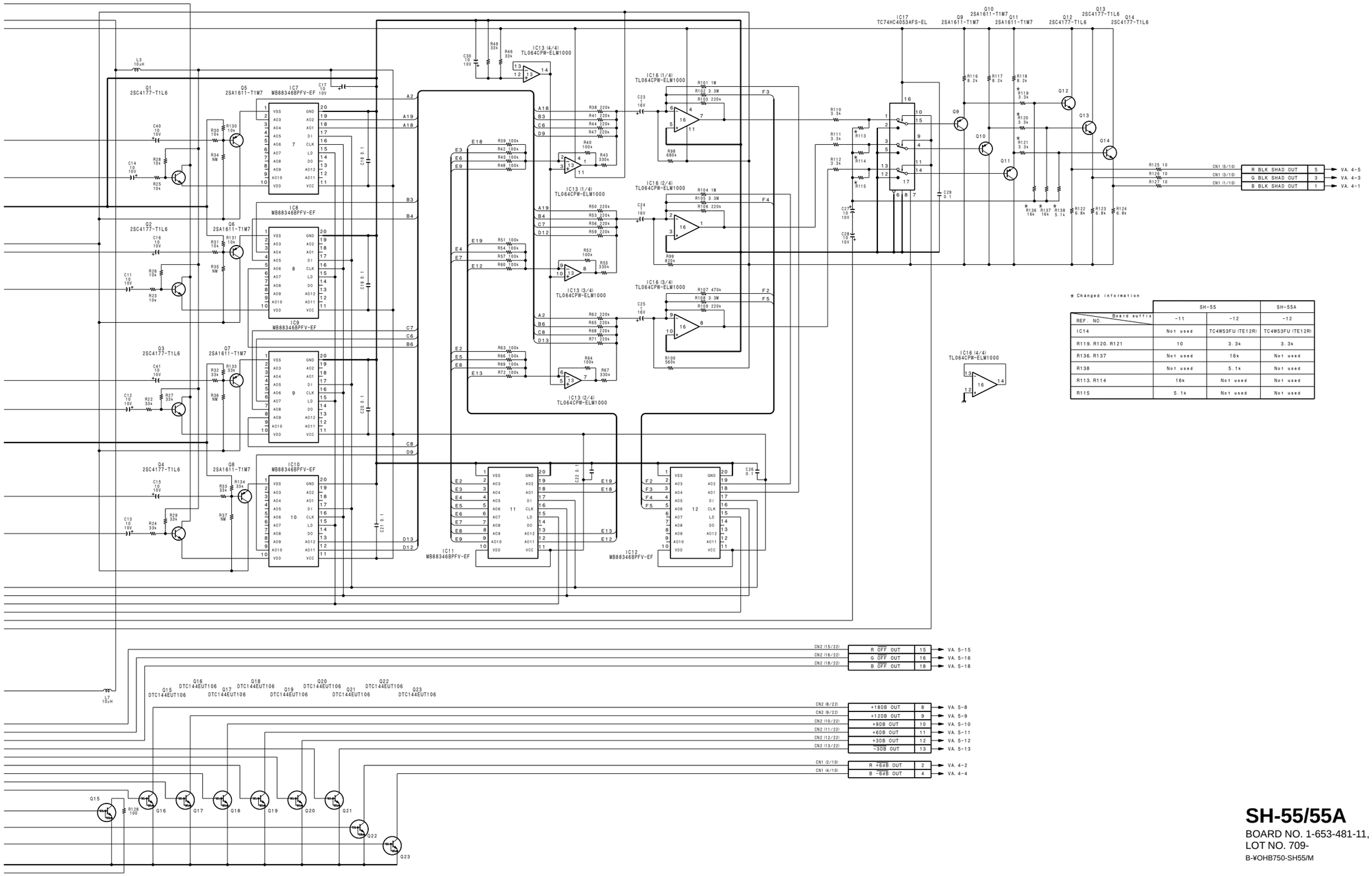
BOARD NO. 1-667-999-11
LOT NO. 709-
B-VOHB750A-TG194-12@-M


1/3 +5V
L6 1uH
IC1 TC7S00FU (TE85R)
TG-193. 2-1 1 +5V IN CN2 (1/16)
L2 1uH
1/3 P71
1/3 P72
1/3 CLK
TG-193. 3-3 3 SHD GATE R OUT CN3 (3/16)
TG-193. 3-1 1 SHD GATE B OUT CN3 (1/16)
TG-193. 3-2 2 SHD GATE G OUT CN3 (2/16)
TG-193. 2-7 7 HD IN CN2 (7/16)
TG-193. 2-9 9 VD IN CN2 (9/16)
TG-193. 4-13 13 FLD/FRM IN CN4 (13/16)
TG-193. 4-15 15 TEMP (X) IN CN4 (15/16)
TG-193. 2-6 16 CLOCK IN CN2 (6/16)
TG-193. 2-5 5 SHD IN CN2 (5/16)
TG-193. 4-16 8 PBLK IN CN4 (16/16)
TG-193. 3-5 5 SG MASK OUT CN3 (5/16)
C6 0.1
1/3 P91
1/3 P92
1/3 P90
1/3 P70
1/3 P73
1/3 P76
R7 5.6k
R6 3.3 RS-C
R10 1k
R11 1k
D1 1SS302-TE85L
TG-193. 4-5 5 D.C.P (G) IN CN4 (5/16)
TG-193. 4-1 1 D.C.P (B) IN CN4 (1/16)
TG-193. 4-9 9 D.C.P (R) IN CN4 (9/16)
C7 0.1
C8 0.1
C9 0.1
R12 330
R13 0
R16 2.4k
R17 33
R18 1k
R19 3.3 RS-C
C15 0.001
DL1
D3 N/M
D4 MA3J74200LS0
C14 0.1
C16 0.1
C17 0.01
C18 10 10V TA-CB
C19 0.1
IC6 CXD1176Q
D7 D6 D5 D4 D3 D2 D1 D0
R1 100k
C3 1 25V TA-CA
C4 10 10V TA-CC
R2 100k
R3 33k
R4 33k
R5 33k
C10 10 10V TA-CC
C11 0.1
R8 2k
C13 68
R9 1k
C12 0.1
D2 1SS302-TE85L
R14 22k
R15 150
3 GND
4 GND
CN2 (3/16)
CN2 (4/16)
C5 10 6.3V TA-CC
L1 10uH
TG-193. 2-2 2 -3V IN CN2 (2/16)
IC7 TC7S00FU (TE85R)
R23 3.3 RS-C
R21 560
R20 100
R22 100
L3 47uH
D9 DTA144EUA-T106
TP3 TP1
C26 0.1
IC8 M62446FP
VCC GND RESET SCK SDA DO RDY/BUSY Vss NC
C64 0.1
IC44 SN74HC157APW-E05
VCC GND INH A V0 V1 W0 W1 X0 X1 Y0 Y1
C21 150 50V NB
C22 10 10V TA-C
C23 0.1
C20 150 50V NB
C24 47 10V TA-CB
C25 10 10V TA-C
Q1 2SA1611-T1W7
IC2 MAX4454CSD
IC3 LM6365MX
IC4 TC7S32FU (TE85R)
IC5 TC4W53FU (TE12R)
IC9 M6M80011AFP-T3



TG-194 (3/3)
BOARD NO. 1-667-999-11
LOT NO. 709-
B-¥OHB750A-TG194-12@-M


17 +7.5V IN
19 +5V IN
5 HD IN
21 GND
22 GND
20 -3V IN
6 VD IN
6 TEMP IN
1 S.DATA IN
2 S.CLOCK IN
7 PREBLKG IN
7 ND POSI OUT
8 CC POSI OUT
9 UNREG IN
10 GND (UNREG)
3 VA LD IN
4 VA DIAG OUT
VA. 5-5
VA. 5-6
VA. 4-6
VA. 5-1
VA. 5-2
VA. 5-7
VA. 4-7
VA. 4-8
VA. 4-9
VA. 5-3
VA. 5-4
TO FILTER DISC
1 UNREG OUT
2 GND (UNREG)
3 ND CONT 2 OUT
4 ND CONT 1 OUT
5 ND CONT 0 OUT
6 CC CONT 2 OUT
7 CC CONT 1 OUT
8 CC CONT 0 OUT
9 ND POSI IN
10 CC POSI IN
11 NC
IC1 TC4W53FU (TE12R)
IC2 (1/4) TL084CPW-E20
IC2 (2/4) TL084CPW-E20
IC2 (3/4) TL084CPW-E20
IC2 (4/4) TL084CPW-E20
IC18 TC7W74FU (TE12R)
IC19 TC7S86FU (TE85R)
IC20 TC7S04FU (TE85R)
IC3 TC4W53FU (TE12R)
IC4 (1/4) TL064CPW-ELM1000
IC4 (3/4) TL064CPW-ELM1000
IC4 (2/4) TL064CPW-ELM1000
IC4 (4/4) TL064CPW-ELM1000
IC5 (1/2) TLC272CPW-E05
IC5 (2/2) TLC272CPW-E05
IC6 TC4W53FU (TE12R)
IC14 TC4W53FU (TE12R)
IC23 CXD8072Q
IC21 (1/2) TC7W08FU (TE12R)
IC21 (2/2) TC7W08FU (TE12R)
D1 1SS301-TE85L
L8 10µH
L2 10µH
L1 10µH
C31 10 16V
C35 0.1
C2 10 10V
C1 10 10V
C6 10 10V
C4 0.001
C9 330p
C10 0.022 PT-C
C7 33 6.3V
C5 0.1 PT-C
C3 33
C8 0.047 PT-C
C33 10 10V TA-CA
C32 0.1
R1 100k
R2 200k
R3 330k
R4 10k
R6 75k
R7 10k
R8 15k
R9 470k
R10 22k
R11 22k
R12 39k
R13 100k
R14 22k
R15 22k
R16 470k
R17 2.2M
R18 22k
R19 22k
R20 22k
R21 22k
R129 10k
R135 33k
C34 0.01
NOTE
NM :NO MOUNT

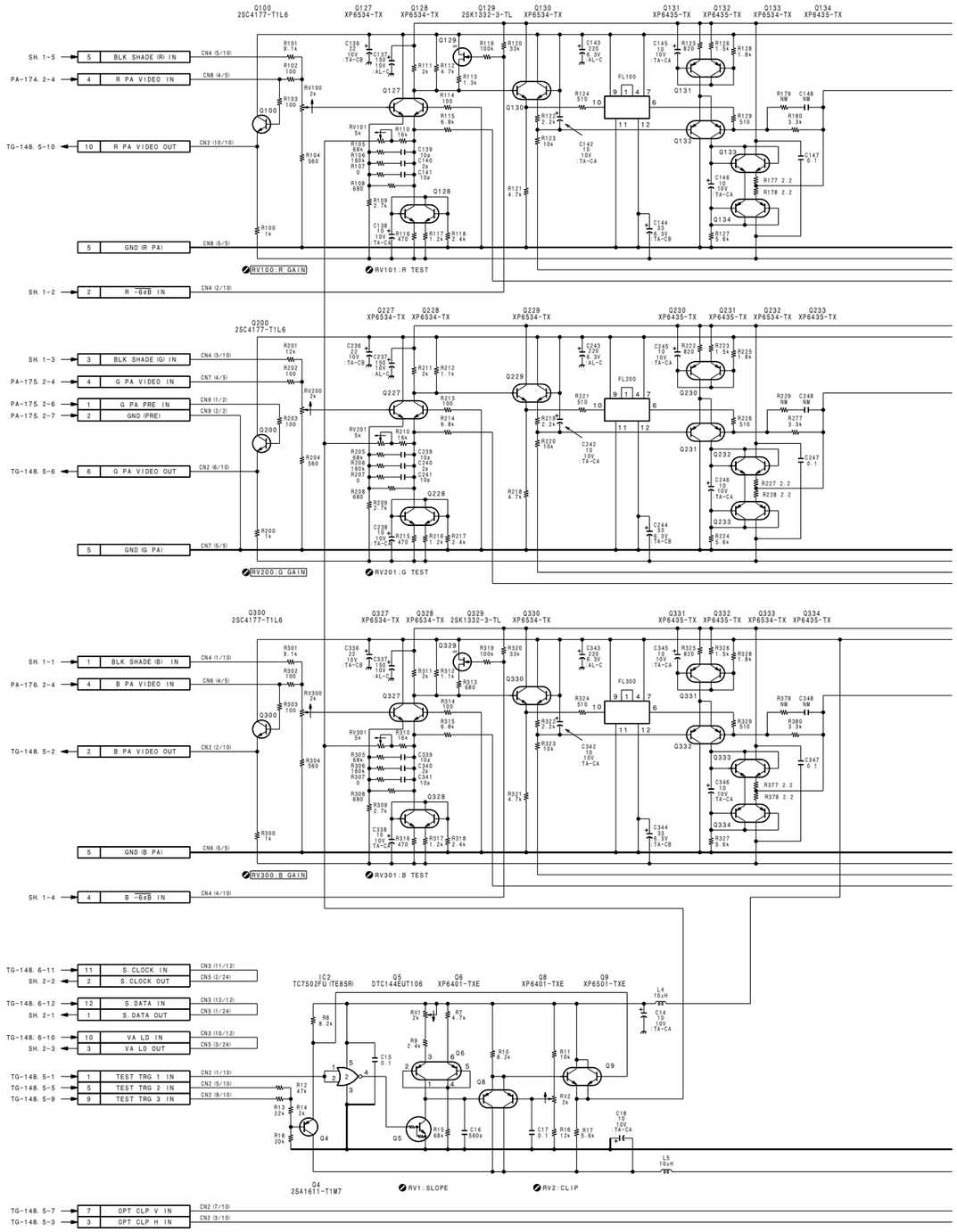


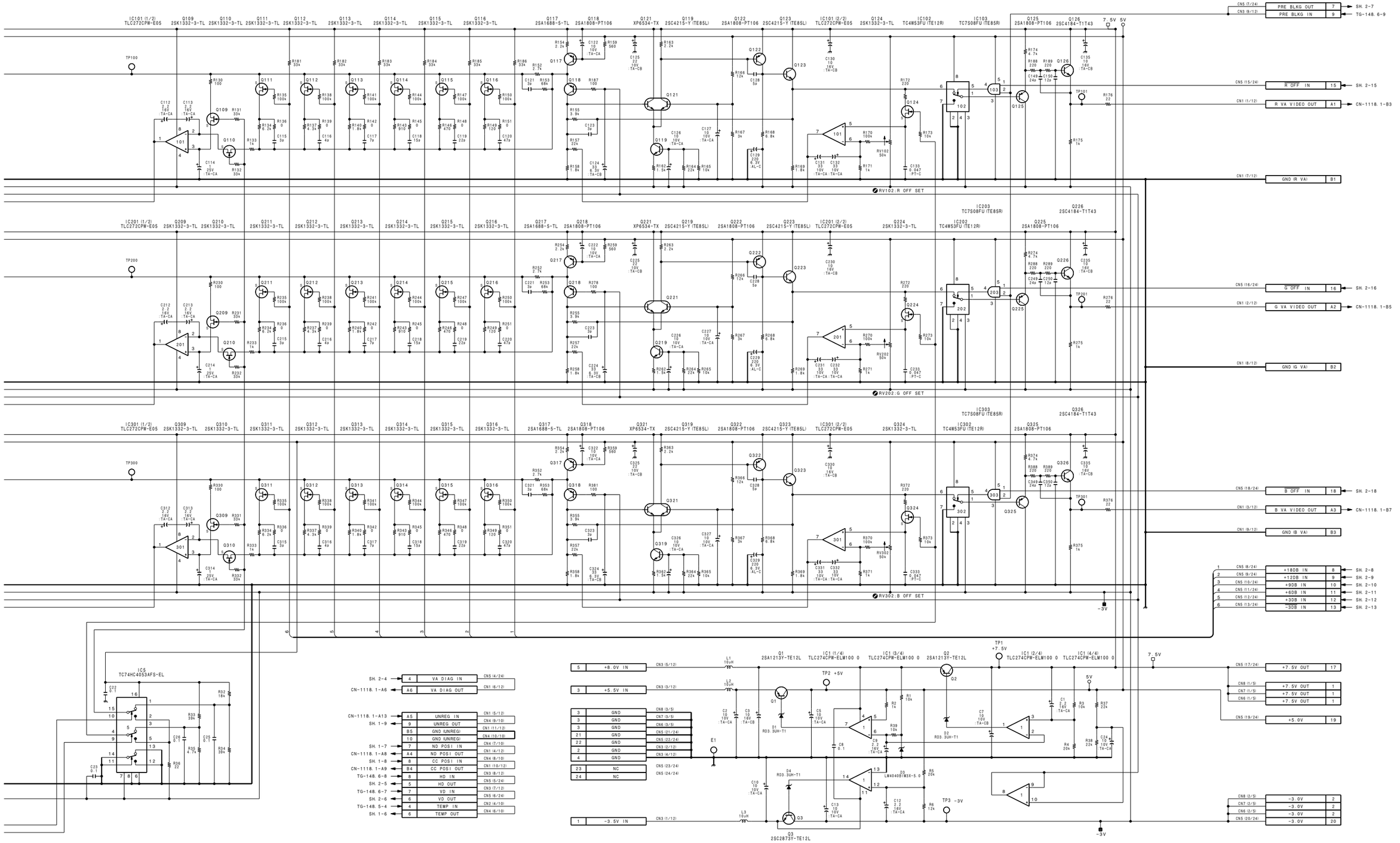
★ Changed information

REF. NO. \ Board suffix	SH-55		SH-55A
	-11	-12	-12
IC14	Not used	TC4W53FU (TE12R)	TC4W53FU (TE12R)
R119. R120. R121	10	3.3k	3.3k
R136. R137	Not used	16k	Not used
R138	Not used	5.1k	Not used
R113. R114	16k	Not used	Not used
R115	5.1k	Not used	Not used

SH-55/55A

BOARD NO. 1-653-481-11, 12
LOT NO. 709-
B-¥OHB750-SH55/M

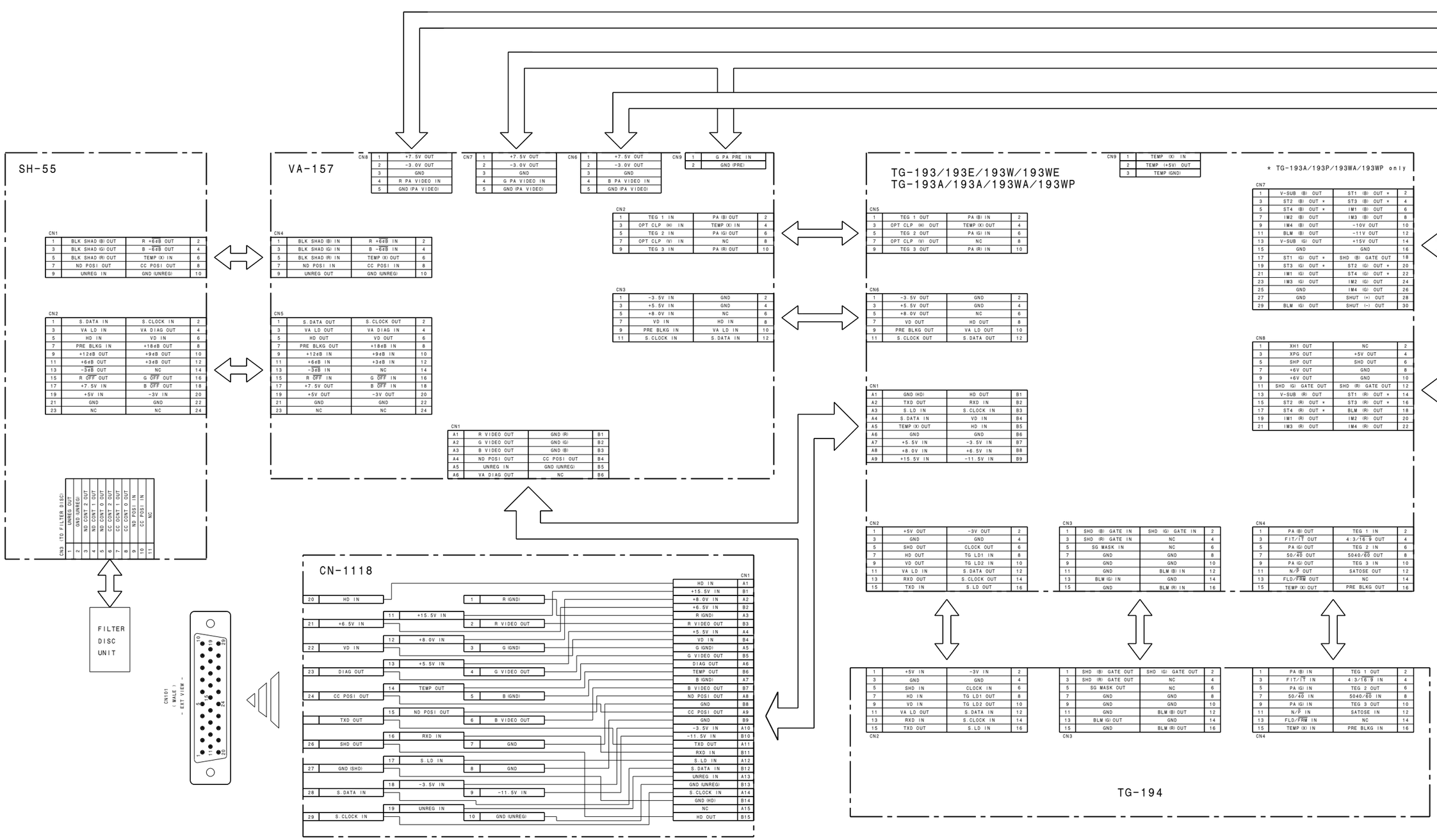

Q100 2SC4177-T1L6
Q127 XP6534-TX
Q128 XP6534-TX
Q129 2SK1332-3-TL
Q130 XP6534-TX
Q131 XP6435-TX
Q132 XP6435-TX
Q133 XP6534-TX
Q134 XP6435-TX
SH. 1-5
BLK SHADE (R) IN
CN4 (5/10)
PA-174. 2-4
R PA VIDEO IN
CN8 (4/5)
TG-148. 5-10
R PA VIDEO OUT
CN2 (10/10)
GND (R PA)
CN8 (5/5)
RV100:R GAIN
RV101:R TEST
SH. 1-2
R -6dB IN
CN4 (2/10)
Q200 2SC4177-T1L6
Q227 XP6534-TX
Q228 XP6534-TX
Q229 XP6534-TX
Q230 XP6435-TX
Q231 XP6435-TX
Q232 XP6534-TX
Q233 XP6435-TX
SH. 1-3
BLK SHADE (G) IN
CN4 (3/10)
PA-175. 2-4
G PA VIDEO IN
CN7 (4/5)
PA-175. 2-6
G PA PRE IN
CN9 (1/2)
PA-175. 2-7
GND (PRE)
CN9 (2/2)
TG-148. 5-6
G PA VIDEO OUT
CN2 (6/10)
GND (G PA)
CN7 (5/5)
RV200:G GAIN
RV201:G TEST
Q300 2SC4177-T1L6
Q327 XP6534-TX
Q328 XP6534-TX
Q329 2SK1332-3-TL
Q330 XP6534-TX
Q331 XP6435-TX
Q332 XP6435-TX
Q333 XP6534-TX
Q334 XP6435-TX
SH. 1-1
BLK SHADE (B) IN
CN4 (1/10)
PA-176. 2-4
B PA VIDEO IN
CN6 (4/5)
TG-148. 5-2
B PA VIDEO OUT
CN2 (2/10)
GND (B PA)
CN6 (5/5)
RV300:B GAIN
RV301:B TEST
SH. 1-4
B -6dB IN
CN4 (4/10)
TG-148. 6-11
S.CLOCK IN
CN3 (11/12)
SH. 2-2
S.CLOCK OUT
CN5 (2/24)
TG-148. 6-12
S.DATA IN
CN3 (12/12)
SH. 2-1
S.DATA OUT
CN5 (1/24)
TG-148. 6-10
VA LD IN
CN3 (10/12)
SH. 2-3
VA LD OUT
CN5 (3/24)
TG-148. 5-1
TEST TRG 1 IN
CN2 (1/10)
TG-148. 5-5
TEST TRG 2 IN
CN2 (5/10)
TG-148. 5-9
TEST TRG 3 IN
CN2 (9/10)
IC2 TC7S02FU-TE85RI
Q5 DTC144EUT106
Q6 XP6401-TXE
Q8 XP6401-TXE
Q9 XP6501-TXE
Q4 2SA1611-T1M7
RV1:SLOPE
RV2:CLIP
TG-148. 5-7
OPT CLP V IN
CN2 (7/10)
TG-148. 5-3
OPT CLP H IN
CN2 (3/10)

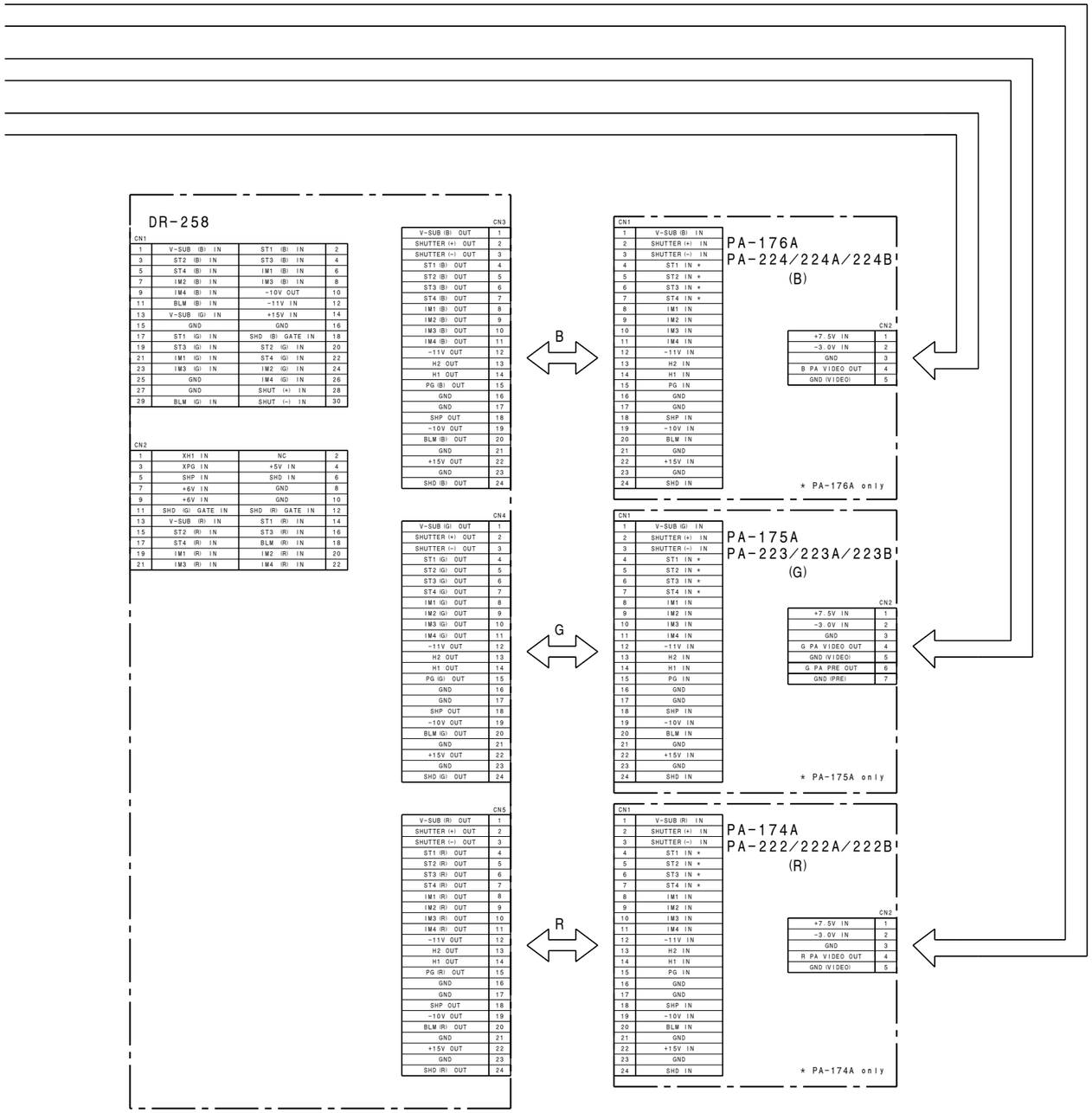

IC101 (1/2) TLC272CPW-E05
IC101 (2/2) TLC272CPW-E05
IC102 TC4W53FU (TE12R)
IC103 TC7S08FU (TE85R)
IC201 (1/2) TLC272CPW-E05
IC201 (2/2) TLC272CPW-E05
IC202 TC4W53FU (TE12R)
IC203 TC7S08FU (TE85R)
IC301 (1/2) TLC272CPW-E05
IC301 (2/2) TLC272CPW-E05
IC302 TC4W53FU (TE12R)
IC303 TC7S08FU (TE85R)
IC5 TC74HC4053AFS-EL
7.5V
5V
-3V
TP100
TP200
TP300
TP101
TP301
RV102:R OFF SET
RV202:G OFF SET
RV302:B OFF SET
CN5 (7/24) PRE BLKG OUT 7 → SH. 2-7
CN3 (9/12) PRE BLKG IN 9 → TG-148. 6-9
CN5 (15/24) R OFF IN 15 → SH. 2-15
CN1 (1/12) R VA VIDEO OUT A1 → CN-1118. 1-B3
CN1 (7/12) GND (R VA) B1
CN5 (16/24) G OFF IN 16 → SH. 2-16
CN1 (2/12) G VA VIDEO OUT A2 → CN-1118. 1-B5
CN1 (8/12) GND (G VA) B2
CN5 (18/24) B OFF IN 18 → SH. 2-18
CN1 (3/12) B VA VIDEO OUT A3 → CN-1118. 1-B7
CN1 (9/12) GND (B VA) B3
CN5 (8/24) +18DB IN 8 → SH. 2-8
CN5 (9/24) +12DB IN 9 → SH. 2-9
CN5 (10/24) +9DB IN 10 → SH. 2-10
CN5 (11/24) +6DB IN 11 → SH. 2-11
CN5 (12/24) +3DB IN 12 → SH. 2-12
CN5 (13/24) -3DB IN 13 → SH. 2-13
SH. 2-4 4 VA DIAG IN CN5 (4/24)
CN-1118. 1-A6 A6 VA DIAG OUT CN1 (6/12)
CN-1118. 1-A13 A5 UNREG IN CN1 (5/12)
SH. 1-9 9 UNREG OUT CN4 (9/10)
B5 GND (UNREG) CN1 (11/12)
10 GND (UNREG) CN4 (10/10)
SH. 1-7 7 ND POSI IN CN4 (7/10)
CN-1118. 1-A8 A4 ND POSI OUT CN1 (4/12)
SH. 1-8 8 CC POSI IN CN4 (8/10)
CN-1118. 1-A9 B4 CC POSI OUT CN1 (10/12)
TG-148. 6-8 8 HD IN CN3 (8/12)
SH. 2-5 5 HD OUT CN5 (5/24)
TG-148. 6-7 7 VD IN CN3 (7/12)
SH. 2-6 6 VD OUT CN5 (6/24)
TG-148. 5-4 4 TEMP IN CN2 (4/10)
SH. 1-6 6 TEMP OUT CN4 (6/10)
5 +8.0V IN CN3 (5/12)
3 +5.5V IN CN3 (3/12)
3 GND CN8 (3/5)
3 GND CN7 (3/5)
3 GND CN6 (3/5)
21 GND CN5 (21/24)
22 GND CN5 (22/24)
2 GND CN3 (2/12)
4 GND CN3 (4/12)
23 NC CN5 (23/24)
24 NC CN5 (24/24)
1 -3.5V IN CN3 (1/12)
Q1 2SA1213Y-TE12L
Q2 2SA1213Y-TE12L
Q3 2SC2873Y-TE12L
D1 RD3.3UH-T1
D2 RD3.3UH-T1
D3 LM4040BIM3X-5.0
D4 RD3.3UH-T1
TP1 +7.5V
TP2 +5V
TP3 -3V
CN5 (17/24) +7.5V OUT 17
CN8 (1/5) +7.5V OUT 1
CN7 (1/5) +7.5V OUT 1
CN6 (1/5) +7.5V OUT 1
CN5 (19/24) +5.0V 19
CN8 (2/5) -3.0V 2
CN7 (2/5) -3.0V 2
CN6 (2/5) -3.0V 2
CN5 (20/24) -3.0V 20

VA-157

BOARD NO. 1-653-480-12, 13
LOT NO. 709-
B-¥OHB750-VA157/M

OHB-730/730WS & PAL
OHB-750A/750WSA & PAL

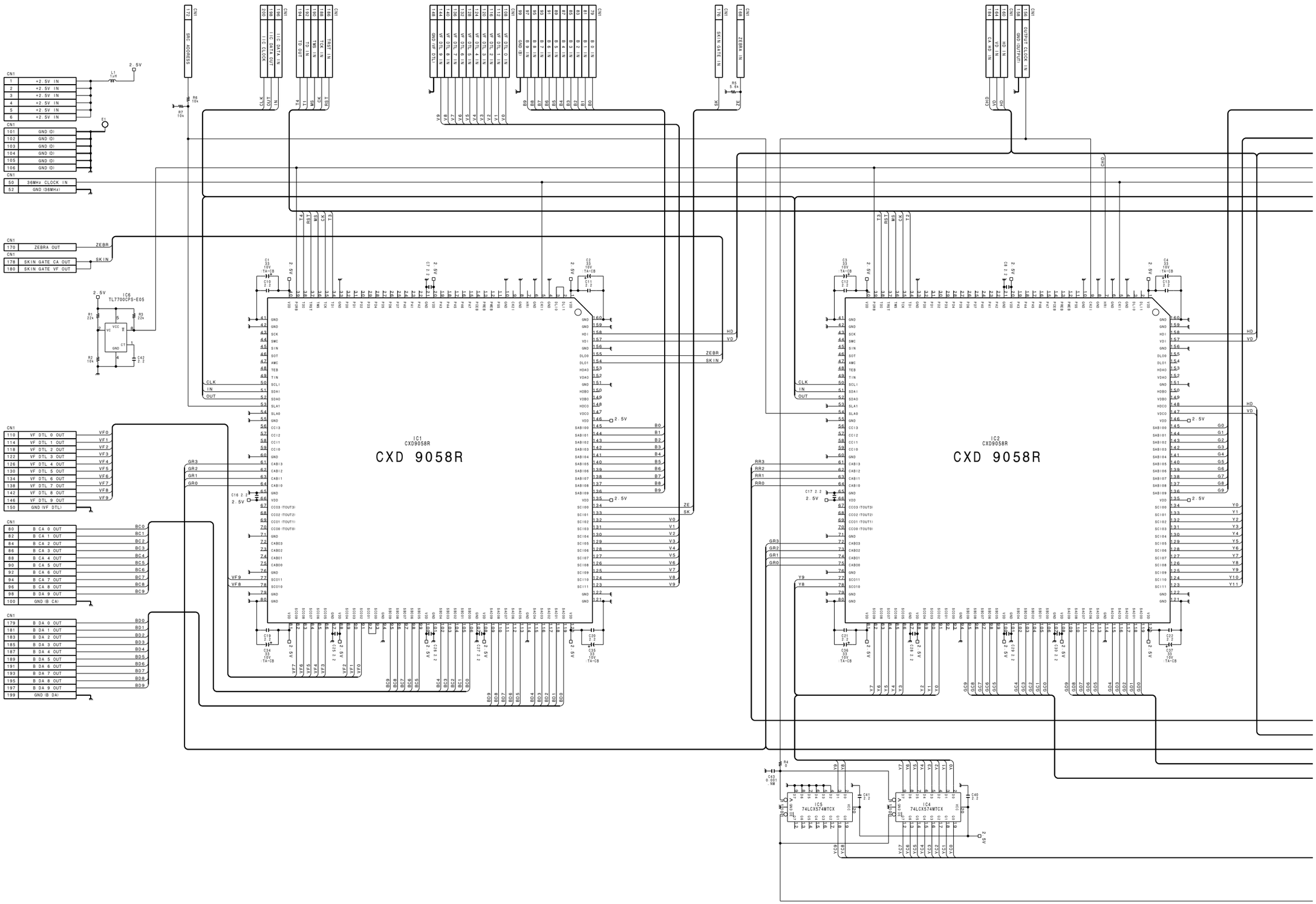

SH-55
VA-157
TG-193/193E/193W/193WE
TG-193A/193A/193WA/193WP
* TG-193A/193P/193WA/193WP only
CN1
BLK SHAD (B) OUT
BLK SHAD (G) OUT
BLK SHAD (R) OUT
ND POSI OUT
UNREG IN
R +6ØB OUT
B -6ØB OUT
TEMP (X) IN
CC POSI OUT
GND (UNREG)
CN2
S.DATA IN
S.CLOCK IN
VA LD IN
HD IN
VA DIAG OUT
VD IN
PRE BLKG IN
+18ØB OUT
+12ØB OUT
+9ØB OUT
+6ØB OUT
+3ØB OUT
-3ØB OUT
R OFF OUT
G OFF OUT
B OFF OUT
+5V IN
-3V IN
GND
NC
CN3 (TO FILTER DISC)
UNREG OUT
GND (UNREG)
ND CONT 2 OUT
ND CONT 1 OUT
ND CONT 0 OUT
CC CONT 2 OUT
CC CONT 1 OUT
CC CONT 0 OUT
ND POSI IN
CC POSI IN
NC
FILTER DISC UNIT
CN101 (MALE) - EXT VIEW -
CN4
CN5
CN8 +7.5V OUT -3.0V OUT GND R PA VIDEO IN GND (PA VIDEO)
CN7 +7.5V OUT -3.0V OUT GND G PA VIDEO IN GND (PA VIDEO)
CN6 +7.5V OUT -3.0V OUT GND B PA VIDEO IN GND (PA VIDEO)
CN9 G PA PRE IN GND (PRE)
CN9 TEMP (X) IN TEMP (+5V) OUT TEMP (GND)
CN2 TEG 1 IN PA (B) OUT OPT CLP (H) IN TEMP (X) IN TEG 2 IN PA (G) OUT OPT CLP (V) IN NC TEG 3 IN PA (R) OUT
CN3 -3.5V IN GND +5.5V IN +8.0V IN VD IN HD IN PRE BLKG IN VA LD IN S.CLOCK IN S.DATA IN
CN1 R VIDEO OUT GND (R) G VIDEO OUT GND (G) B VIDEO OUT GND (B) ND POSI OUT CC POSI OUT UNREG IN GND (UNREG) VA DIAG OUT NC
CN5 TEG 1 OUT PA (B) IN OPT CLP (H) OUT TEMP (X) OUT TEG 2 OUT PA (G) IN OPT CLP (V) OUT NC TEG 3 OUT PA (R) IN
CN6 -3.5V OUT GND +5.5V OUT GND +8.0V OUT NC VD OUT HD OUT PRE BLKG OUT VA LD OUT S.CLOCK OUT S.DATA OUT
CN1 GND (HD) HD OUT TXD OUT RXD IN S.LD IN S.CLOCK IN S.DATA IN VD IN TEMP (X) OUT HD IN +5.5V IN -3.5V IN +8.0V IN +6.5V IN +15.5V IN -11.5V IN
CN7 V-SUB (B) OUT ST1 (B) OUT * ST2 (B) OUT * ST3 (B) OUT * ST4 (B) OUT * IM1 (B) OUT IM2 (B) OUT IM3 (B) OUT IM4 (B) OUT -10V OUT V-SUB (G) OUT +15V OUT GND GND ST1 (G) OUT * SHD (B) GATE OUT ST3 (G) OUT * ST2 (G) OUT * IM1 (G) OUT ST4 (G) OUT * IM2 (G) OUT IM3 (G) OUT IM4 (G) OUT GND SHUT (+) OUT BLM (G) OUT SHUT (-) OUT
CN8 XH1 OUT NC XPG OUT +5V OUT SHP OUT SHD OUT +6V OUT GND +6V OUT GND SHD (G) GATE OUT SHD (R) GATE OUT V-SUB (R) OUT ST1 (R) OUT * ST2 (R) OUT * ST3 (R) OUT * ST4 (R) OUT * BLM (R) OUT IM1 (R) OUT IM2 (R) OUT IM3 (R) OUT IM4 (R) OUT
CN2 +5V OUT -3V OUT GND GND SHD OUT CLOCK OUT HD OUT TG LD1 IN VD OUT TG LD2 IN VA LD IN S.DATA OUT RXD OUT S.CLOCK OUT TXD IN S.LD OUT
CN3 SHD (B) GATE IN SHD (G) GATE IN SHD (R) GATE IN NC SG MASK IN NC GND GND GND GND GND BLM (B) IN BLM (G) IN GND GND BLM (R) IN
CN4 PA (B) OUT TEG 1 IN FIT/IT OUT 4:3/16:9 OUT PA (G) OUT TEG 2 IN 50/40 OUT 5040/60 OUT PA (G) OUT TEG 3 IN N/P OUT SATOSE OUT FLD/FRM OUT NC TEMP (X) OUT PRE BLKG OUT
CN2 +5V IN -3V IN GND GND SHD IN CLOCK IN HD IN TG LD1 OUT VD IN TG LD2 OUT VA LD OUT S.DATA IN RXD IN S.CLOCK IN TXD OUT S.LD IN
CN3 SHD (B) GATE OUT SHD (G) GATE OUT SHD (R) GATE OUT NC SG MASK OUT NC GND GND GND GND GND BLM (G) OUT GND BLM (B) OUT BLM (R) OUT
CN4 PA (B) IN TEG 1 OUT FIT/IT IN 4:3/16:9 IN PA (G) IN TEG 2 OUT 50/40 IN 5040/60 IN PA (G) IN TEG 3 OUT N/P IN SATOSE IN FLD/FRM IN NC TEMP (X) IN PRE BLKG IN
TG-194
CN-1118
HD IN +15.5V IN +8.0V IN +6.5V IN R (GND) R VIDEO OUT +5.5V IN G (GND) G VIDEO OUT DIAG OUT TEMP OUT B (GND) B VIDEO OUT ND POSI OUT GND CC POSI OUT GND -3.5V IN -11.5V IN TXD OUT RXD IN S.LD IN S.DATA IN UNREG IN GND (UNREG) S.CLOCK IN GND (HD) NC HD OUT



Frame

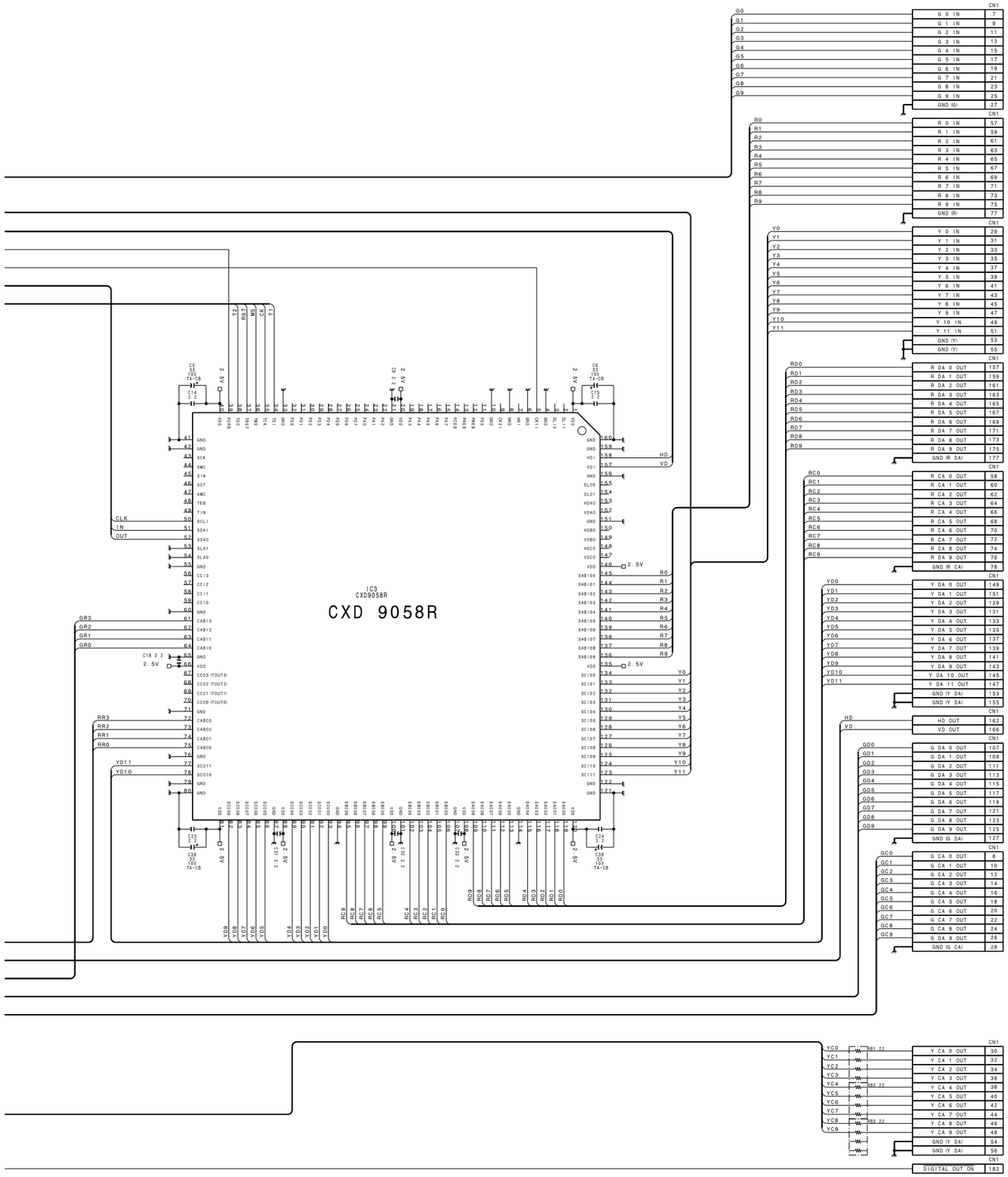
LOT NO. 709-

B-¥OHB750-FRAME/M


CN1
1 +2.5V IN
2 +2.5V IN
3 +2.5V IN
4 +2.5V IN
5 +2.5V IN
6 +2.5V IN
L1 1μH
2.5V
CN1
101 GND (D)
102 GND (D)
103 GND (D)
104 GND (D)
105 GND (D)
106 GND (D)
F1
CN1
50 36MHz CLOCK IN
52 GND (36MHz)
CN1
170 ZEBRA OUT
178 SKIN GATE CA OUT
180 SKIN GATE VF OUT
ZEBR
SKIN
IC6
TL7700CPS-E05
R1 22k
R2 10k
R3 22k
C42 2.2
CN1
110 VF DTL 0 OUT
114 VF DTL 1 OUT
118 VF DTL 2 OUT
122 VF DTL 3 OUT
126 VF DTL 4 OUT
130 VF DTL 5 OUT
134 VF DTL 6 OUT
138 VF DTL 7 OUT
142 VF DTL 8 OUT
146 VF DTL 9 OUT
150 GND (VF DTL)
VF0
VF1
VF2
VF3
VF4
VF5
VF6
VF7
VF8
VF9
CN1
80 B CA 0 OUT
82 B CA 1 OUT
84 B CA 2 OUT
86 B CA 3 OUT
88 B CA 4 OUT
90 B CA 5 OUT
92 B CA 6 OUT
94 B CA 7 OUT
96 B CA 8 OUT
98 B DA 9 OUT
100 GND (B CA)
BC0
BC1
BC2
BC3
BC4
BC5
BC6
BC7
BC8
BC9
CN1
179 B DA 0 OUT
181 B DA 1 OUT
183 B DA 2 OUT
185 B DA 3 OUT
187 B DA 4 OUT
189 B DA 5 OUT
191 B DA 6 OUT
193 B DA 7 OUT
195 B DA 8 OUT
197 B DA 9 OUT
199 GND (B DA)
BD0
BD1
BD2
BD3
BD4
BD5
BD6
BD7
BD8
BD9
IC1
CXD9058R
IC2
CXD9058R
CN1 72 SRC ADDRESS
CN1 73 I²C DATA IN
CN1 74 I²C DATA OUT
CN1 75 I²C CLOCK
CN1 76 TO OUT
CN1 77 TMS IN
CN1 78 TCK IN
CN1 79 TRST IN
CN1 89 GND (D)
CN1 90 D 0 IN
CN1 91 D 1 IN
CN1 92 D 2 IN
CN1 93 D 3 IN
CN1 94 D 4 IN
CN1 95 D 5 IN
CN1 96 D 6 IN
CN1 97 D 7 IN
CN1 98 D 8 IN
CN1 99 D 9 IN
CN1 48 GND (VF DTL)
CN1 141 VF DTL 0 IN
CN1 142 VF DTL 1 IN
CN1 143 VF DTL 2 IN
CN1 144 VF DTL 3 IN
CN1 145 VF DTL 4 IN
CN1 146 VF DTL 5 IN
CN1 147 VF DTL 6 IN
CN1 148 VF DTL 7 IN
CN1 149 VF DTL 8 IN
CN1 150 VF DTL 9 IN
CN1 174 SKIN GATE IN
CN1 175 ZEBRA IN
CN1 164 CHROMA IN
CN1 165 HD IN
CN1 166 VD IN
CN1 167 GND (OUTPUT)
CN1 168 OUTPUT CLOCK IN
CLK IN OUT
T4 RST MS CK T3
R4 10k
R5 5.6k
R6 10k
R7 10k
C16 2.2 2.5V
C17 2.2 2.5V
HD
VD
CHD
ZEBR
SKIN
SK
ZE
GR3
GR2
GR1
GR0
RR3
RR2
RR1
RR0
VF9
VF8
IC5
74LCX574MTCX
IC4
74LCX574MTCX
C41 2.2
C43 0.001
C40 2.2
2.5V

http://getMANUAL.com

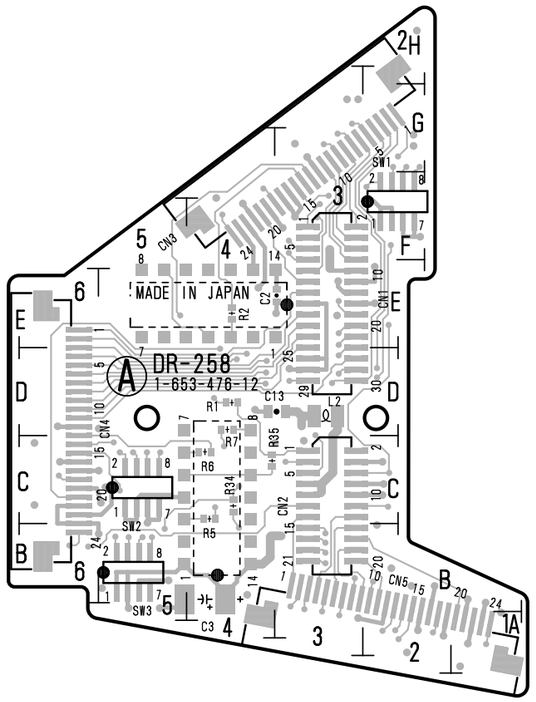
RC-68 OHB-730WS/750WSA series


IC3
CXD9058R
CXD 9058R
CN1
G 0 IN 7
G 1 IN 9
G 2 IN 11
G 3 IN 13
G 4 IN 15
G 5 IN 17
G 6 IN 19
G 7 IN 21
G 8 IN 23
G 9 IN 25
GND (G) 27
R 0 IN 57
R 1 IN 59
R 2 IN 61
R 3 IN 63
R 4 IN 65
R 5 IN 67
R 6 IN 69
R 7 IN 71
R 8 IN 73
R 9 IN 75
GND (R) 77
Y 0 IN 29
Y 1 IN 31
Y 2 IN 33
Y 3 IN 35
Y 4 IN 37
Y 5 IN 39
Y 6 IN 41
Y 7 IN 43
Y 8 IN 45
Y 9 IN 47
Y 10 IN 49
Y 11 IN 51
GND (Y) 53
GND (Y) 55
R DA 0 OUT 157
R DA 1 OUT 159
R DA 2 OUT 161
R DA 3 OUT 163
R DA 4 OUT 165
R DA 5 OUT 167
R DA 6 OUT 169
R DA 7 OUT 171
R DA 8 OUT 173
R DA 9 OUT 175
GND (R DA) 177
R CA 0 OUT 58
R CA 1 OUT 60
R CA 2 OUT 62
R CA 3 OUT 64
R CA 4 OUT 66
R CA 5 OUT 68
R CA 6 OUT 70
R CA 7 OUT 72
R CA 8 OUT 74
R DA 9 OUT 76
GND (R CA) 78
Y DA 0 OUT 149
Y DA 1 OUT 151
Y DA 2 OUT 129
Y DA 3 OUT 131
Y DA 4 OUT 133
Y DA 5 OUT 135
Y DA 6 OUT 137
Y DA 7 OUT 139
Y DA 8 OUT 141
Y DA 9 OUT 143
Y DA 10 OUT 145
Y DA 11 OUT 147
GND (Y DA) 153
GND (Y DA) 155
HD OUT 162
VD OUT 166
G DA 0 OUT 107
G DA 1 OUT 109
G DA 2 OUT 111
G DA 3 OUT 113
G DA 4 OUT 115
G DA 5 OUT 117
G DA 6 OUT 119
G DA 7 OUT 121
G DA 8 OUT 123
G DA 9 OUT 125
GND (G DA) 127
G CA 0 OUT 8
G CA 1 OUT 10
G CA 2 OUT 12
G CA 3 OUT 14
G CA 4 OUT 16
G CA 5 OUT 18
G CA 6 OUT 20
G CA 7 OUT 22
G CA 8 OUT 24
G DA 9 OUT 26
GND (G CA) 28
Y CA 0 OUT 30
Y CA 1 OUT 32
Y CA 2 OUT 34
Y CA 3 OUT 36
Y CA 4 OUT 38
Y CA 5 OUT 40
Y CA 6 OUT 42
Y CA 7 OUT 44
Y CA 8 OUT 46
Y CA 9 OUT 48
GND (Y DA) 54
GND (Y DA) 56
DIGITAL OUT ON 182
CLK
LIN
OUT
GR3
GR2
GR1
GR0
RR3
RR2
RR1
RR0
YD11
YD10
HD
VD
2.5V

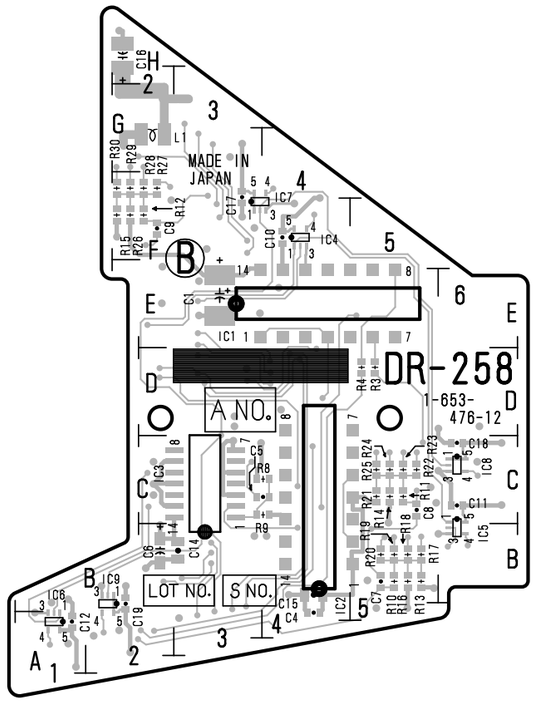
RC-68

BOARD NO. 1-667-979-11
LOT NO. 709-
B-¥BVP900-RC68-11@

Section 7
Board Layouts



DR-258 -A SIDE-
1-653-476-12



DR-258 -B SIDE-
1-653-476-12

DR-258(1-653-476-12)

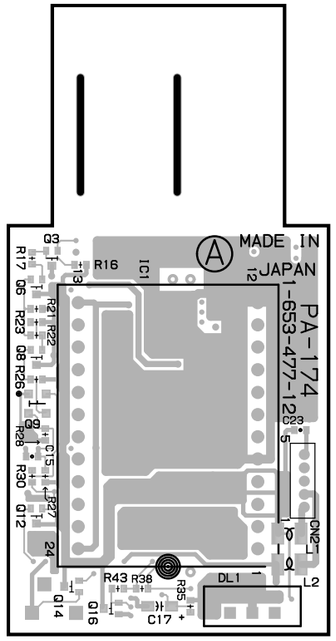
CN1	E2
CN2	C3
CN3	F5
CN4	D5
CN5	B2
C1	*E3
C2	E4
C3	A4
C4	*A4
C5	*C3
C6	*B2
C7	*B5
C8	*C5
C9	*F2
C10	*F4
C11	*C6
C12	*A2
C13	D3
C14	*B3
C15	*B4
C16	*H2
C17	*F3
C18	*C6
C19	*A2
IC1	*E3
IC2	*B4
IC3	*C2
IC4	*F4
IC5	*B6
IC6	*B1
IC7	*F4
IC8	*C6
IC9	*B2
L1	*G3
L2	D3
R1	D4
R2	E4
R3	*D5
R4	*D5
R5	B4
R6	C4
R7	C4
R8	*C3
R9	*B3
R10	*B5
R11	*C5
R12	*F3
R13	*B5
R14	*C5
R15	*F2
R16	*B5
R17	*B5
R18	*B5
R19	*B5
R20	*B5
R21	*C5
R22	*C5
R23	*C5
R24	*C5
R25	*C5
R26	*F2
R27	*G2
R28	*G2
R29	*G2
R30	*G2
R34	C4
R35	C4
SW1	G2
SW2	C5
SW3	B5

*:B SIDE

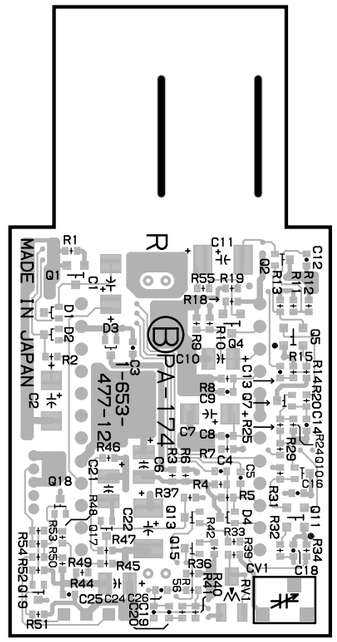
PA-174/175/176 OHB-750A/750WSA swries

PA-174(1-653-477-12)

CN2	B1	Q7	*B2	R29	*B2
		Q8	A2	R30	B2
CV1	*B2	Q9	B2	R31	*B2
		Q10	*B2	R32	*B2
C1	*A1	Q11	*B2	R33	*B2
C2	*B1	Q12	B2	R34	*B2
C3	*A1	Q13	*B1	R35	B1
C4	*B2	Q14	B2	R36	*B2
C5	*B2	Q15	*B2	R37	*B1
C6	*B1	Q16	B2	R38	B2
C7	*B2	Q17	*B1	R39	*B2
C8	*B2	Q18	*B1	R40	*B2
C9	*B2			R42	*B2
C10	*A2	RV1	*B2	R43	B2
C11	*A2			R44	*B1
C13	*A2	R1	*A1	R45	*B1
C14	*B2	R2	*A1	R46	*B1
C15	B2	R3	*B1	R47	*B1
C16	*B2	R4	*B2	R48	*B1
C17	B2	R5	*B2	R49	*B1
C18	*B2	R6	*B2	R54	*B1
C19	*B1	R7	*B2	R55	*A2
C21	*B1	R8	*A2	R56	*B2
C22	*B1	R9	*A2		
C23	B1	R10	*A2	*:B SIDE	
C24	*B1	R11	*A2		
C25	*B1	R12	*A2		
C26	*B1	R13	*A2		
		R14	*A2		
D1	*A1	R15	*A2		
D2	*A1	R16	A2		
D3	*A1	R17	A2		
D4	*B2	R18	*A2		
		R19	*A2		
L1	B1	R20	*B2		
L2	B1	R21	A2		
		R22	A2		
Q1	*A1	R23	A2		
Q2	*A2	R24	*B2		
Q3	A2	R25	*B2		
Q4	*A2	R26	A2		
Q5	*A2	R27	B2		
Q6	A2	R28	B2		



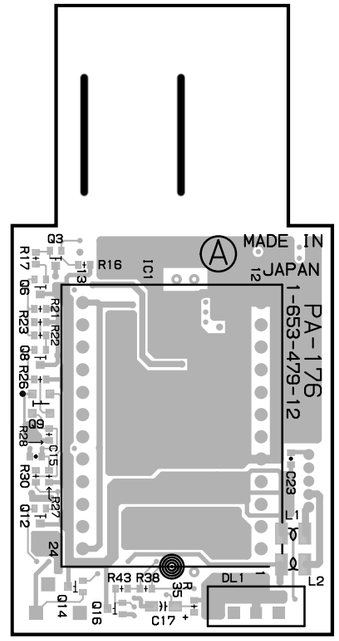
PA-174 -A SIDE-
1-653-477-12



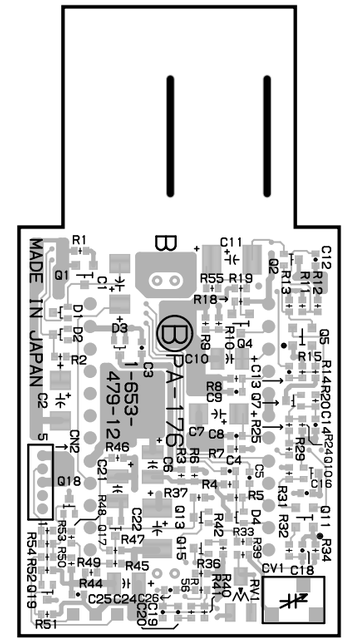
PA-174 -B SIDE-
1-653-477-12

PA-176(1-653-479-12)

CN2	*B1	Q7	*B2	R29	*B2
		Q8	A2	R30	B2
CV1	*B2	Q9	B2	R31	*B2
		Q10	*B2	R32	*B2
C1	*A1	Q11	*B2	R33	*B2
C2	*B1	Q12	B2	R34	*B2
C3	*A1	Q13	*B1	R35	B1
C4	*B2	Q14	B2	R36	*B2
C5	*B2	Q15	*B1	R37	*B1
C6	*B1	Q16	B2	R38	B2
C7	*B2	Q17	*B1	R39	*B2
C8	*B2	Q18	*B1	R40	*B2
C9	*B2			R42	*B2
C10	*A2	RV1	*B2	R43	B2
C11	*A2			R44	*B1
C13	*A2	R1	*A1	R45	*B1
C14	*B2	R2	*A1	R46	*B1
C15	B2	R3	*B1	R47	*B1
C16	*B2	R4	*B2	R48	*B1
C17	B2	R5	*B2	R49	*B1
C18	*B2	R6	*B2	R54	*B1
C19	*B1	R7	*B2	R55	*A2
C21	*B1	R8	*A2	R56	*B2
C22	*B1	R9	*A2		
C23	B1	R10	*A2	*:B SIDE	
C24	*B1	R11	*A2		
C25	*B1	R12	*A2		
C26	*B1	R13	*A2		
		R14	*A2		
D1	*A1	R15	*A2		
D2	*A1	R16	A2		
D3	*A1	R17	A2		
D4	*B2	R18	*A2		
		R19	*A2		
L1	B1	R20	*B2		
L2	B1	R21	A2		
		R22	A2		
Q1	*A1	R23	A2		
Q2	*A2	R24	*B2		
Q3	A2	R25	*B2		
Q4	*A2	R26	A2		
Q5	*A2	R27	B2		
Q6	A2	R28	B2		



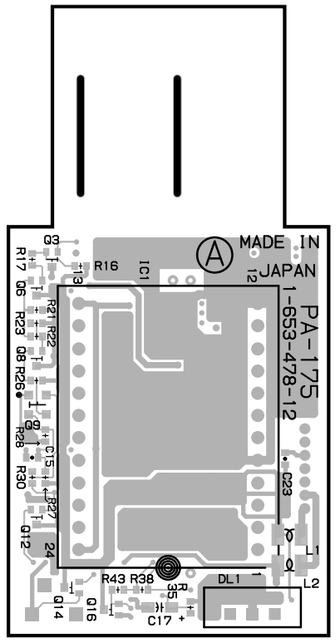
PA-176 -A SIDE-
1-653-479-12



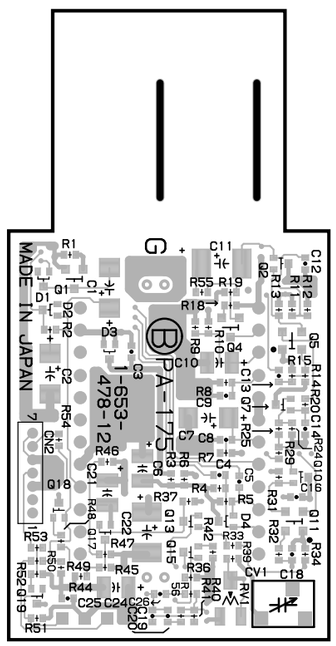
PA-176 -B SIDE-
1-653-479-12

PA-175(1-653-478-12)

CN2	*B1	Q5	*A2	R26	A2
		Q6	A2	R27	B2
CV1	*B2	Q7	*B2	R28	B2
		Q8	A2	R29	*B2
C1	*A1	Q9	B2	R30	B2
C2	*A1	Q10	*B2	R31	*B2
C3	*A1	Q11	*B2	R32	*B2
C4	*B2	Q12	B2	R33	*B2
C5	*B2	Q13	*B1	R34	*B2
C6	*B1	Q14	B2	R35	B1
C7	*B2	Q15	*B1	R36	*B2
C8	*B2	Q16	B2	R37	*B1
C9	*B2	Q17	*B1	R38	B2
C10	*A2	Q18	*B1	R39	*B2
C11	*A2	Q19	*B1	R40	*B2
C13	*A2			R42	*B2
C14	*B2	RV1	*B2	R43	B2
C15	B2			R44	*B1
C16	*B2	R1	*A1	R45	*B1
C17	B2	R2	*A1	R46	*B1
C18	*B2	R3	*B1	R47	*B1
C19	*B1	R4	*B2	R48	*B1
C21	*B1	R5	*B2	R49	*B1
C22	*B1	R6	*B2	R50	*B1
C23	B1	R7	*B2	R51	*B1
C24	*B1	R8	*A2	R52	*B1
C25	*B1	R9	*A2	R53	*B1
C26	*B1	R10	*A2	R54	*B1
		R11	*A2	R55	*A2
DL1	B1	R12	*A2	R56	*B2
		R13	*A2		
D1	*A1	R14	*A2	*:B SIDE	
D2	*A1	R15	*A2		
D3	*A1	R16	A2		
D4	*B2	R17	A2		
		R18	*A2		
L1	B1	R19	*A2		
L2	B1	R20	*B2		
		R21	A2		
Q1	*A1	R22	A2		
Q2	*A2	R23	A2		
Q3	A2	R24	*B2		
Q4	*A2	R25	*B2		



PA-175 -A SIDE-
1-653-478-12

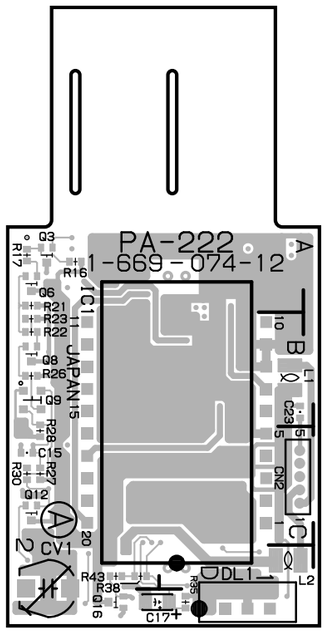


PA-175 -B SIDE-
1-653-478-12

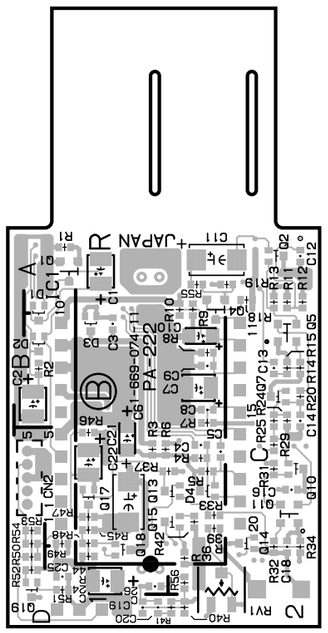
PA-222/223/224 OHB-730/730WS swries

PA-222(1-669-074-12)

C1	*A1	Q1	*A1	R23	B2
C2	*B1	Q2	*A2	R24	*B2
C3	*B1	Q3	A2	R25	*B2
C4	*C2	Q4	*A2	R26	B2
C5	*C2	Q5	*B2	R27	C2
C6	*C1	Q6	A2	R28	C2
C7	*B2	Q7	*B2	R29	*C2
C8	*B2	Q8	B2	R30	C2
C9	*B2	Q9	B2	R31	*C2
C10	*B2	Q10	*C2	R32	*D2
C11	*A2	Q11	*C2	R33	*C2
C12	*A2	Q12	C2	R34	*D2
C13	*B2	Q13	*C2	R35	D1
C14	*B2	Q14	*C2	R36	*D2
C15	C2	Q15	*C2	R37	*C2
C16	*C2	Q16	D2	R38	D2
C17	D2	Q17	*C1	R39	*C2
C18	*D2	Q18	*D1	R40	*D2
C19	*D1	Q19	*D1	R41	*D2
C20	*D1			R42	*C2
C21	*C1	R1	*A1	R43	D2
C22	*C1	R2	*B1	R44	*D1
C23	B1	R3	*C1	R45	*C1
C24	*D1	R4	*C2	R46	*C1
C25	*D1	R5	*C2	R47	*C1
C26	*D1	R6	*C1	R48	*C1
		R7	*B2	R49	*C1
CN2	C1	R8	*B2	R50	*D1
		R9	*A2	R51	*D1
CV1	D2	R10	*A2	R52	*D1
		R11	*A2	R53	*C1
D1	*B1	R12	*A2	R54	*C1
D2	*B1	R13	*A2	R55	*A2
D3	*B1	R14	*B2	R56	*D2
D4	*C2	R15	*B2		
		R16	A2	RV1	*D2
DL1	D1	R17	A2		
		R18	*A2	*:B SIDE	
IC1	C1	R19	*A2		
		R20	*B2		
L1	B1	R21	A2		
L2	D1	R22	B2		



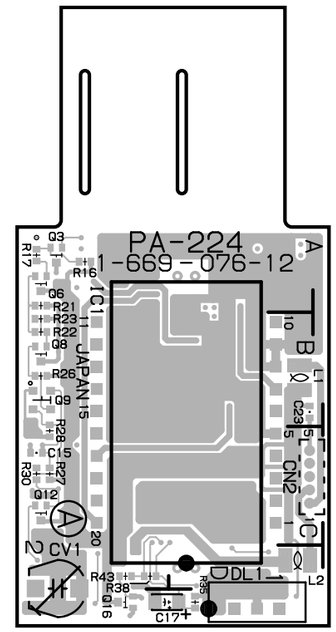
PA-222 -A SIDE-
1-669-074-12



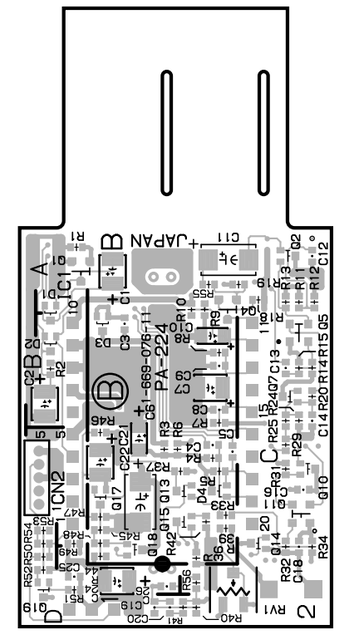
PA-222 -B SIDE-
1-669-074-12

PA-224(1-669-076-12)

C1	*A1	Q1	*A1	R23	B2
C2	*B1	Q2	*A2	R24	*B2
C3	*B1	Q3	A2	R25	*B2
C4	*C2	Q4	*A2	R26	B2
C5	*C2	Q5	*B2	R27	C2
C6	*C1	Q6	A2	R28	C2
C7	*B2	Q7	*B2	R29	*C2
C8	*B2	Q8	B2	R30	C2
C9	*B2	Q9	B2	R31	*C2
C10	*B2	Q10	*C2	R32	*D2
C11	*A2	Q11	*C2	R33	*C2
C12	*A2	Q12	C2	R34	*D2
C13	*B2	Q13	*C2	R35	D1
C14	*B2	Q14	*C2	R36	*D2
C15	C2	Q15	*C2	R37	*C2
C16	*C2	Q16	D2	R38	D2
C17	D2	Q17	*C1	R39	*C2
C18	*D2	Q18	*D1	R40	*D2
C19	*D1	Q19	*D1	R41	*D2
C20	*D1			R42	*C2
C21	*C1	R1	*A1	R43	D2
C22	*C1	R2	*B1	R44	*D1
C23	B1	R3	*C1	R45	*C1
C24	*D1	R4	*C2	R46	*C1
C25	*D1	R5	*C2	R47	*C1
C26	*D1	R6	*C1	R48	*C1
		R7	*B2	R49	*C1
CN2	*C1	R8	*B2	R50	*D1
		R9	*A2	R51	*D1
CV1	D2	R10	*A2	R52	*D1
		R11	*A2	R53	*C1
D1	*B1	R12	*A2	R54	*C1
D2	*B1	R13	*A2	R55	*A2
D3	*B1	R14	*B2	R56	*D2
D4	*C2	R15	*B2		
		R16	A2	RV1	*D2
DL1	D1	R17	A2		
		R18	*A2	*:B SIDE	
IC1	C1	R19	*A2		
		R20	*B2		
L1	B1	R21	A2		
L2	D1	R22	B2		



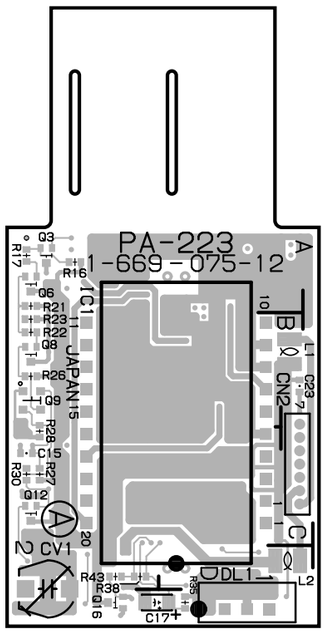
PA-224 -A SIDE-
1-669-076-12



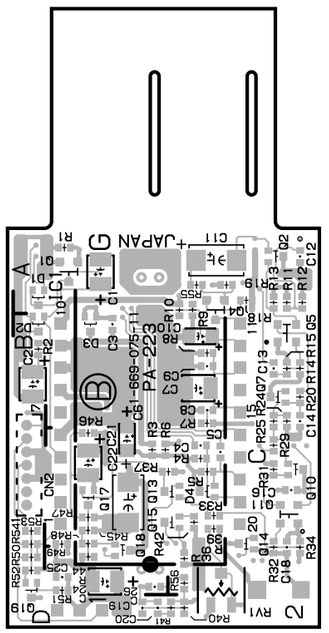
PA-224 -B SIDE-
1-669-076-12

PA-223(1-669-075-12)

C1	*A1	Q1	*A1	R24	*B2
C2	*B1	Q2	*A2	R25	*B2
C3	*B1	Q3	A2	R26	B2
C4	*C2	Q4	*A2	R27	C2
C5	*C2	Q5	*B2	R28	C2
C6	*C1	Q6	A2	R29	*C2
C7	*B2	Q7	*B2	R30	C2
C8	*B2	Q8	B2	R31	*C2
C9	*B2	Q9	B2	R32	*D2
C10	*B2	Q10	*C2	R33	*C2
C11	*A2	Q11	*C2	R34	*D2
C12	*A2	Q12	C2	R35	D1
C13	*B2	Q13	*C2	R36	*D2
C14	*B2	Q14	*C2	R37	*C2
C15	C2	Q15	*C2	R38	D2
C16	*C2	Q16	D2	R39	*C2
C17	D2	Q17	*C1	R40	*D2
C18	*D2	Q18	*D1	R41	*D2
C19	*D1	Q19	*D1	R42	*C2
C20	*D1			R43	D2
C21	*C1	R1	*A1	R44	*D1
C22	*C1	R2	*B1	R45	*C1
C23	B1	R3	*C1	R46	*C1
C24	*D1	R4	*C2	R47	*C1
C25	*D1	R5	*C2	R48	*C1
C26	*D1	R6	*C1	R49	*C1
		R7	*B2	R50	*D1
CN2	C1	R8	*B2	R51	*D1
		R9	*A2	R52	*D1
CV1	D2	R10	*A2	R53	*C1
		R11	*A2	R54	*C1
D1	*A1	R12	*A2	R55	*A2
D2	*B1	R13	*A2	R56	*D2
D3	*B1	R14	*B2		
D4	*C2	R15	*B2	RV1	*D2
		R16	A2		
DL1	D1	R17	A2	*:B SIDE	
		R18	*A2		
IC1	C1	R19	*A2		
		R20	*B2		
L1	B1	R21	A2		
L2	D1	R22	B2		
		R23	B2		

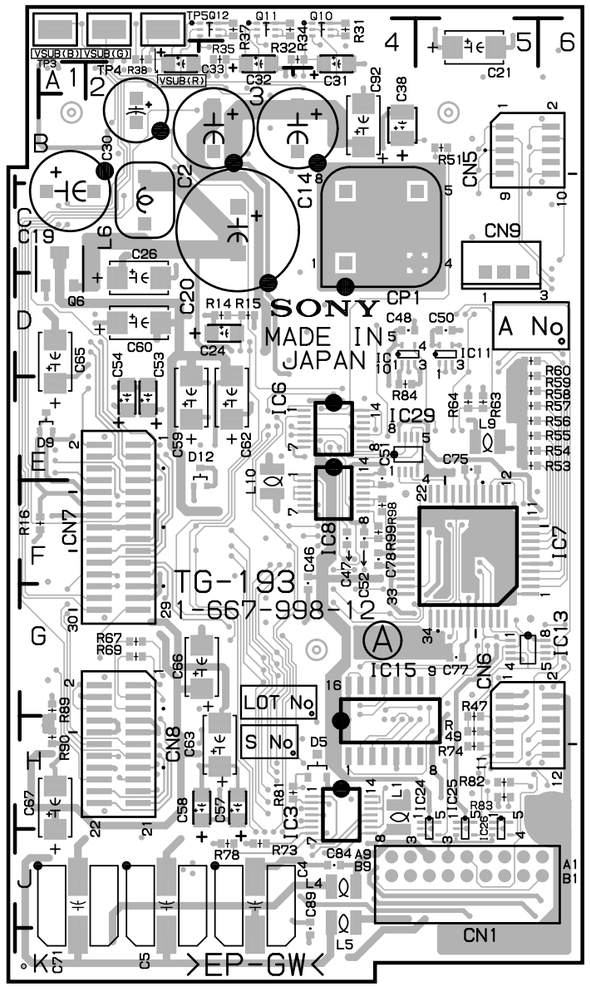


PA-223 -A SIDE-
1-669-075-12

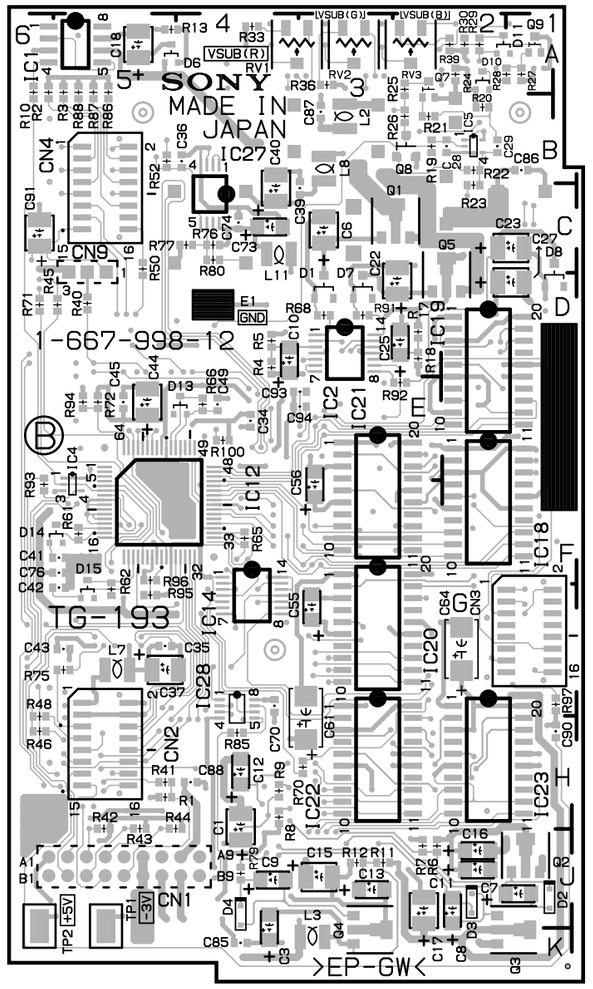


PA-223 -B SIDE-
1-669-075-12

7-5



TG-193 -A SIDE-
1-667-998-11, 12

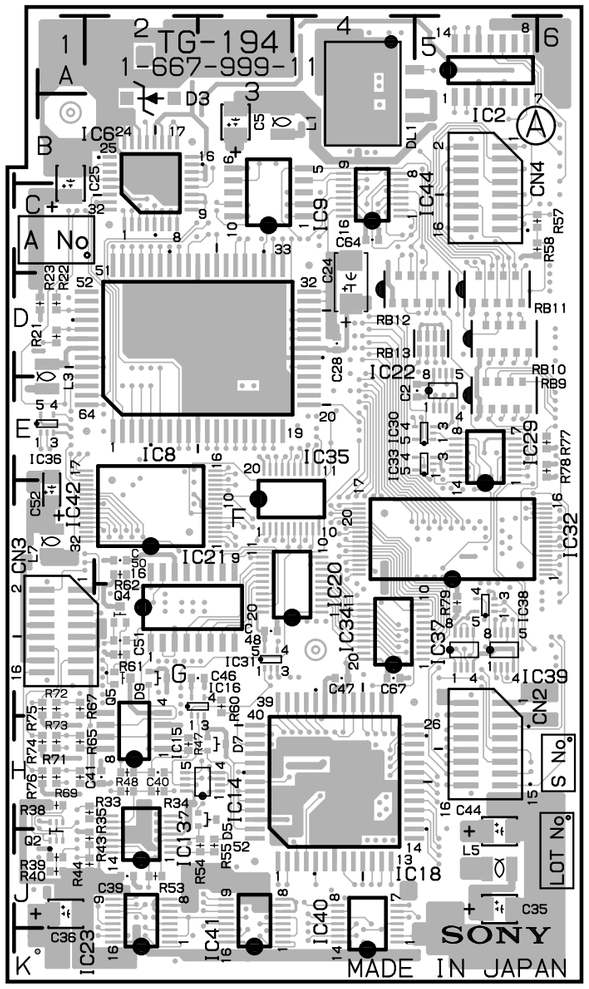


TG-193 -B SIDE-
1-667-998-11, 12

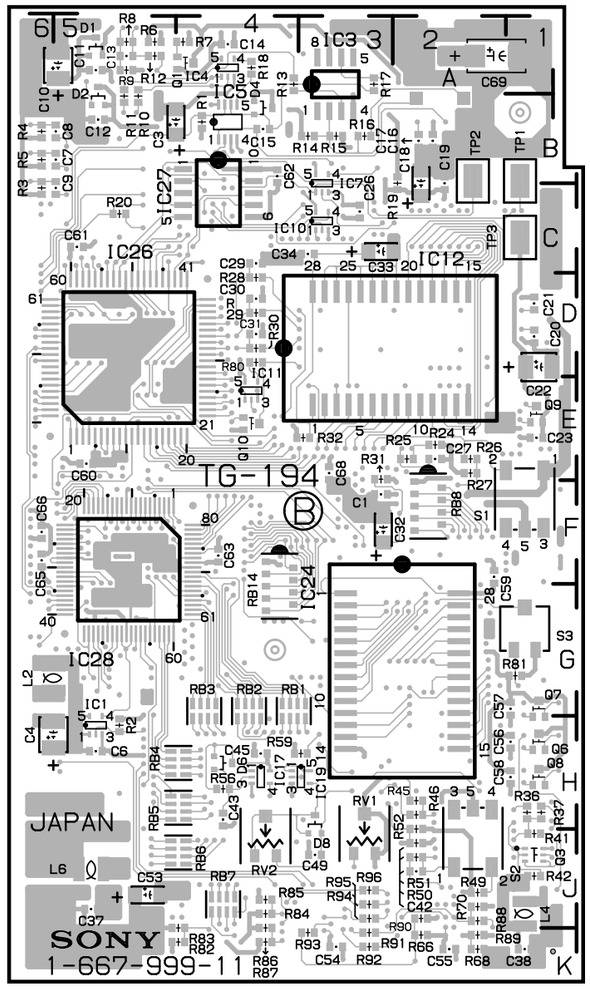
TG-193(1-667-998-11,12)

C1	*H4	CN6	H5	R16	F1	TP3	A1
C2	B3	CN7	F2	R17	*D2	TP4	A2
C3	*J4	CN8	H2	R18	*D2	TP5	A2
C4	J3	CN9	C5	R19	*B2		
C5	J2			R20	*B2	*:B SIDE	
C6	*C3	CP1	C4	R21	*B2	#1:SUFFIX -11	
C7	*J1			R22	*B2	#2:SUFFIX -12	
C8	*J2	D1	*D3	R23	*C2		
C9	*J4	D2	*J1	R24	*A2		
C10	*D4	D3	*J2	R25	*A2		
C11	*J2	D4	*J4	R26	*B2		
C12	*H4	D5	H4	R27	*A1		
C13	*J3	D6	*A5	R28	*A1		
C14	B4	D7	*D3	R29	*A2		
C15	*J3	D8	*D1	R30	*A2		
C16	*J2	D9	E1	R31	A4		
C17	*J2	D10	*A2	R32	A4		
C18	*A5	D11	*A2	R33	*A4		
C19	C1	D12	E3	R34	A3		
C20	C3	D13	*E4	R35	A3		
C21	A5	D14	*F5	R36	*A3		
C22	*D2	D15	*G5	R37	A3		
C23	*C1			R38	A2		
C24	D3	E1	*D4	R39	*A2		
C25	*D2			R40	*D5		
C26	D2	IC1	*A6	R41	*H5		
C27	*D1	IC2	*D3	R42	*H5		
C28	*B2	IC3	H4	R43	*H5		
C29	*B2	IC4	*F5	R44	*H5		
C30	B2	IC5	*B2	R45	*D5		
C31	A4	IC6	E4	R46	*H6		
C32	A3	IC7	F5	R47	H5		
C33	A2	IC8	E4	R48	*H6		
C34	*E4	IC10	D4	R49	H5		
C35	*G5	IC11	D5	R50	*C5		
C36	*B4	IC12	*F5	R51	B5		
C37	*G5	IC13	G5	R52	*B5		
C38	B4	IC14	*F4	R53	E5		
C39	*C3	IC15	H4	R54	E5		
C40	*C4	IC18	*E2	R55	E5		
C41	*F5	IC19	*D2	R56	E5		
C42	*G5	IC20	*F3	R57	E5		
C43	*G5	IC21	*E3	R58	E5		
C44	*E5	IC22	*G3	R59	D5		
C45	*E5	IC23	*G2	R60	D5		
C46	F4	IC24	H5	R61	*F5		
C47	F4	IC25	H5	R62	*G5		
C48	D4	IC26	H5	R63	E5		
C49	*E4	IC27	*B4	R64	E5		
C50	D5	IC28	*G4	R65	*F4		
C51	E4	IC29	E4	R66	*E4		
C52	F4			R67	G2		
C53	E2	L1	H4	R68	*D3		
C54	E2	L2	*B3	R69	G2		
C55	*G3	L3	*K3	R70	*H3		
C56	*F3	L4	J4	R71	*D6		
C57	H3	L5	J4	R72	*E5		
C58	H3	L6	C2	R73	J3		
C59	E2	L7	*G5	R74	H5		
C60	D2	L8	*B3	R75	*G5		
C61	*H3	L9	E5	R76	*C4		
C62	E3	L10	F3	R77	*C4		
C63	H3	L11	*C4	R78	J3		
C64	*G2			R79	*J4		
C65	D1	Q1	*C2	R80	*C4		
C66	G3	Q2	*J1	R81	H4		
C67	H1	Q3	*K1	R82	H5		
C70	*G4	Q4	*K3	R83	H5		
C71	J1	Q5	*D2	R84	E4		
C73	*C4	Q6	C1	R85	*H4		
C74	*C4	Q7	*A2	R86	*A5		
C75	E5	Q8	*B2	R87	*A5		
C76	*F5(#2)	Q9	*A1	R88	*A5		
C77	G5	Q10	A4	R89	G1		
C78	F4	Q11	A3	R90	H1		
C84	J4	Q12	A3	R91	*D3		
C85	*K4			R92	*E2		
C86	*B1	R1	*H5	R93	*F6		
C87	*B3	R2	*A6	R94	*E5		
C88	*H4	R3	*A5	R95	*G5		
C89	K4	R4	*D4	R96	*F5		
C90	*H1	R5	*D4	R97	*G1		
C91	*C6	R6	*J2	R98	F4		
C92	B4	R7	*J2	R99	F4		
C93	*E3(#2)	R8	*H4	R100	*E4		
C94	*E3(#2)	R9	*H4				
		R10	*A6	RV1	*A4		
CN1	J5	R11	*J3	RV2	*A3		
CN2	*H5	R12	*J3	RV3	*A2		
CN3	*G1	R13	*A5				
CN4	*C5	R14	D3	TP1	*J5		
CN5	B5	R15	D3	TP2	*J6		

http://getMANUAL.com



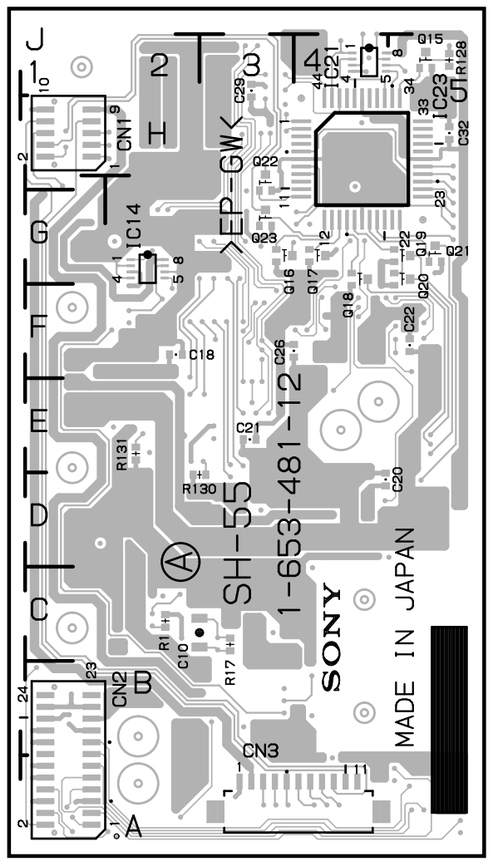
TG-194 -A SIDE-
1-667-999-11



TG-194 -B SIDE-
1-667-999-11

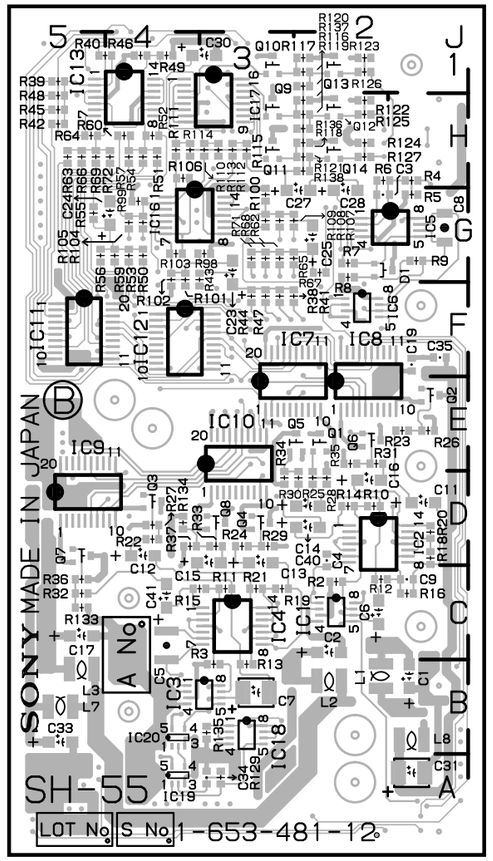
TG-194(1-667-999-11)

C1	*F3	IC8	D3	R38	H1
C2	E5	IC9	C4	R39	J1
C3	*B5	IC10	*C3	R40	J1
C4	*H6	IC11	*E4	R41	*J1
C5	B3	IC12	*E3	R42	*J1
C6	*H5	IC13	J2	R43	J2
C7	*B5	IC14	H3	R44	J2
C8	*B5	IC15	H2	R45	*H2
C9	*C5	IC16	G3	R46	*H2
C10	*A5	IC17	*H4	R47	H2
C11	*A5	IC18	H4	R48	H2
C12	*B5	IC19	*H3	R49	*J2
C13	*A5	IC20	G4	R50	*J2
C14	*A4	IC21	G2	R51	*J2
C15	*B4	IC22	E5	R52	*H2
C16	*B2	IC23	K2	R53	J2
C17	*B2	IC24	*G3	R54	J3
C18	*B2	IC26	*D5	R55	J3
C19	*B2	IC27	*B4	R56	*H4
C20	*D1	IC28	*F5	R57	C6
C21	*D1	IC29	E5	R58	C6
C22	*D1	IC30	E5	R59	*H3
C23	*E1	IC31	G3	R60	G3
C24	D4	IC32	F6	R61	G2
C25	B1	IC33	E5	R62	F2
C26	*C3	IC34	G5	R65	H1
C27	*E2	IC35	F3	R66	*K2
C28	D4	IC36	E1	R67	G1
C29	*C4	IC37	G5	R68	*K2
C30	*D4	IC38	G5	R69	H1
C31	*D4	IC39	G5	R70	*J2
C32	*F3	IC40	K4	R71	H1
C33	*C3	IC41	K3	R72	G1
C34	*C3	IC42	F3	R73	H1
C35	J5	IC44	C4	R74	H1
C36	J1			R75	G1
C37	*J5	L1	B3	R76	H1
C38	*K1	L2	*G6	R77	E6
C39	J2	L3	D1	R78	E6
C40	H2	L4	*J1	R79	G5
C41	H2	L5	J5	R80	*D4
C42	*J2	L6	*J5	R81	*G1
C43	*H4	L7	F1	R82	*K4
C44	J5			R83	*J4
C45	*H4	Q1	*A4	R84	*J4
C46	G3	Q2	J1	R85	*J4
C47	G4	Q3	*J1	R86	*J4
C48	G3	Q4	G2	R87	*K4
C49	*J3	Q5	G2	R88	*J2
C50	F2	Q6	*H1	R89	*K2
C51	G2	Q7	*G1	R90	*J2
C52	F1	Q8	*H1	R91	*K3
C53	*J5	Q9	*E1	R92	*K3
C54	*K3	Q10	*E4	R93	*K3
C55	*K2			R94	*J3
C56	*H1	R1	*B4	R95	*J3
C57	*G1	R2	*H5	R96	*J3
C58	*H1	R3	*C6		
C59	*F2	R4	*B6	RB1	*G4
C60	*E5	R5	*B6	RB2	*G4
C61	*C5	R6	*A5	RB3	*G4
C62	*B4	R7	*A4	RB4	*H4
C63	*F4	R8	*A5	RB5	*H4
C64	C4	R9	*A5	RB6	*J4
C65	*F6	R10	*B5	RB7	*J4
C66	*F6	R11	*B5	RB8	*F2
C67	G4	R12	*A5	RB9	E5
C68	*E3	R13	*A4	RB10	D5
C69	*A2	R14	*B3	RB11	D5
CN2	H5	R15	*B3	RB12	D5
CN3	G1	R16	*B3	RB13	D5
CN4	C5	R17	*A3	RB14	*G4
		R18	*A4		
D1	*A5	R19	*B2	RV1	*J3
D2	*B5	R20	*C5	RV2	*J4
D3	B2	R21	D1		
D4	*B4	R22	D1	S1	*F1
D5	H3	R23	D1	S2	*J2
D6	*H4	R24	*E2	S3	*G1
D7	H3	R25	*E2		
D8	*H3	R26	*E2	TP1	*B1
D9	G2	R27	*E2	TP2	*B2
		R28	*D4	TP3	*C1
DL1	A5	R29	*D4		
		R30	*D4	*:B SIDE	
IC1	*H5	R31	*E3		
IC2	B5	R32	*E3		
IC3	*B3	R33	H2		
IC4	*A4	R34	H2		
IC5	*B4	R35	H2		
IC6	B2	R36	*H1		
IC7	*B3	R37	*H1		



OHB-730 (UCJ) : S/N 10031 and Higher
OHB-730P (CE) : S/N 40011 and Higher
OHB-730WS (UCJ) : S/N 10026 and Higher
OHB-730WSP (CE) : S/N 40021 and Higher
OHB-750A (UCJ) : S/N 10076 and Higher
OHB-750AP (CE) : S/N 40021 and Higher
OHB-750WSA (UCJ) : S/N 10051 and Higher
OHB-750WSAP (CE) : S/N 40021 and Higher

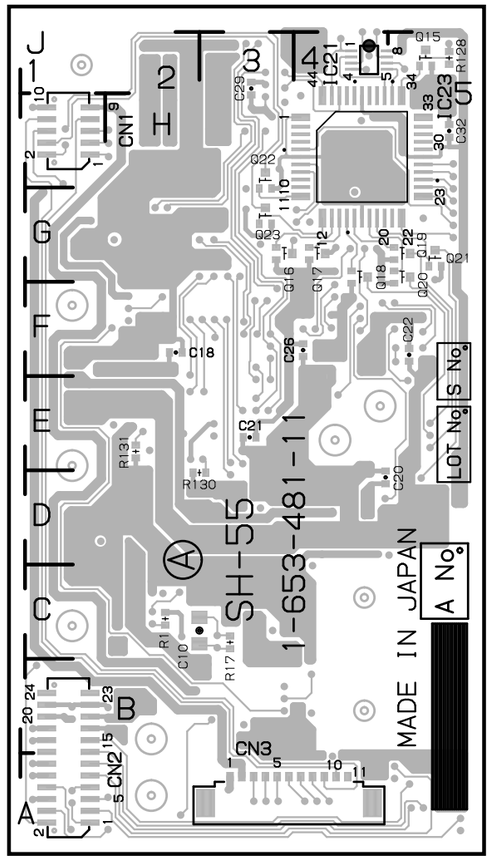
SH-55 -A SIDE-
1-653-481-12



SH-55 -B SIDE-
1-653-481-12

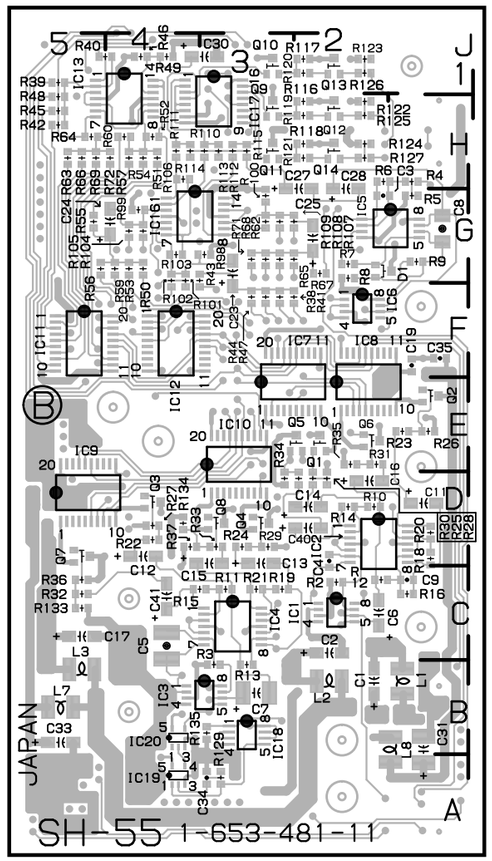
SH-55(1-653-481-12)

C1	*B1	Q21	G5	R117	*J2				
C2	*C2	Q22	H3	R118	*H2				
C3	*G2	Q23	G3	R119	*H2				
C4	*D2			R120	*J2				
C5	*C4	R1	C2	R121	*H2				
C6	*C2	R2	*C2	R122	*J2				
C7	*B3	R3	*B3	R123	*J2				
C8	*G1	R4	*H1	R124	*H2				
C9	*C1	R5	*G1	R125	*H2				
C10	C3	R6	*H2	R126	*J2				
C11	*D1	R7	*G2	R127	*H2				
C12	*D4	R8	*G2	R128	J5				
C13	*D3	R9	*G1	R129	*A3				
C14	*D2	R10	*D2	R130	D3				
C15	*D3	R11	*C3	R131	E2				
C16	*D2	R12	*C2	R133	*C5				
C17	*C5	R13	*B3	R134	*D4				
C18	F2	R14	*D2	R135	*B3				
C19	*F1	R15	*C4	R136	*H2				
C20	D4	R16	*C1	R137	*J2				
C21	E3	R17	C3	R138	*H2				
C22	F5	R18	*D1						
C23	*G3	R19	*C3	*:B SIDE					
C24	*G4	R20	*D1						
C25	*G2	R21	*C3						
C26	F4	R22	*D4						
C27	*G2	R23	*E1						
C28	*G2	R24	*D3						
C29	J3	R25	*D2						
C30	*J3	R26	*E1						
C31	*A1	R27	*D4						
C32	H5	R28	*D2						
C33	*B5	R29	*D3						
C34	*A3	R30	*D2						
C35	*F1	R31	*E2						
C40	*D2	R32	*C5						
C41	*C4	R33	*D3						
		R34	*D3						
CN1	H1	R35	*E2						
CN2	A1	R36	*C5						
CN3	A4	R37	*D4						
		R38	*F3						
D1	*G2	R39	*J5						
		R40	*J5						
IC1	*C2	R41	*F3						
IC2	*D2	R42	*H5						
IC3	*B3	R43	*G4						
IC4	*C3	R44	*F3						
IC5	*G2	R45	*H5						
IC6	*F2	R46	*J4						
IC7	*E3	R47	*F3						
IC8	*E2	R48	*H5						
IC9	*D5	R49	*J4						
IC10	*D3	R50	*G4						
IC11	*F5	R51	*H4						
IC12	*F4	R52	*H4						
IC13	*J5	R53	*G4						
IC14	G2	R54	*H4						
IC16	*G4	R55	*G5						
IC17	*J4	R56	*G5						
IC18	*B3	R57	*H4						
IC19	*A4	R59	*G4						
IC20	*B4	R60	*H4						
IC21	J4	R62	*G3						
IC23	H4	R63	*H5						
		R64	*H5						
L1	*B2	R65	*G3						
L2	*B2	R66	*H5						
L3	*B5	R67	*G2						
L7	*B5	R68	*G3						
L8	*B1	R69	*H5						
		R71	*G3						
Q1	*E2	R72	*H4						
Q2	*E1	R98	*G3						
Q3	*D4	R99	*G4						
Q4	*D3	R100	*G3						
Q5	*E2	R101	*G4						
Q6	*E2	R102	*G4						
Q7	*D5	R103	*G4						
Q8	*D3	R104	*G4						
Q9	*H3	R105	*G4						
Q10	*J3	R106	*H4						
Q11	*H3	R107	*G3						
Q12	*H2	R108	*G3						
Q13	*J2	R109	*G3						
Q14	*H2	R110	*H3						
Q15	J5	R111	*H4						
Q16	G3	R112	*H3						
Q17	G4	R113	*H3						
Q18	G4	R114	*H4						
Q19	G5	R115	*H3						
Q20	G5	R116	*H2						



OHB-730 (UCJ) : S/N 10001 through 10030
OHB-730P (CE) : S/N 40001 through 40010
OHB-730WS (UCJ) : S/N 10001 through 10025
OHB-730WSP (CE) : S/N 40001 through 40020
OHB-750A (UCJ) : S/N 10001 through 10075
OHB-750AP (CE) : S/N 40001 through 40020
OHB-750WSA (UCJ) : S/N 10001 through 10050
OHB-750WSAP (CE) : S/N 40001 through 40020

SH-55 -A SIDE-
1-653-481-11



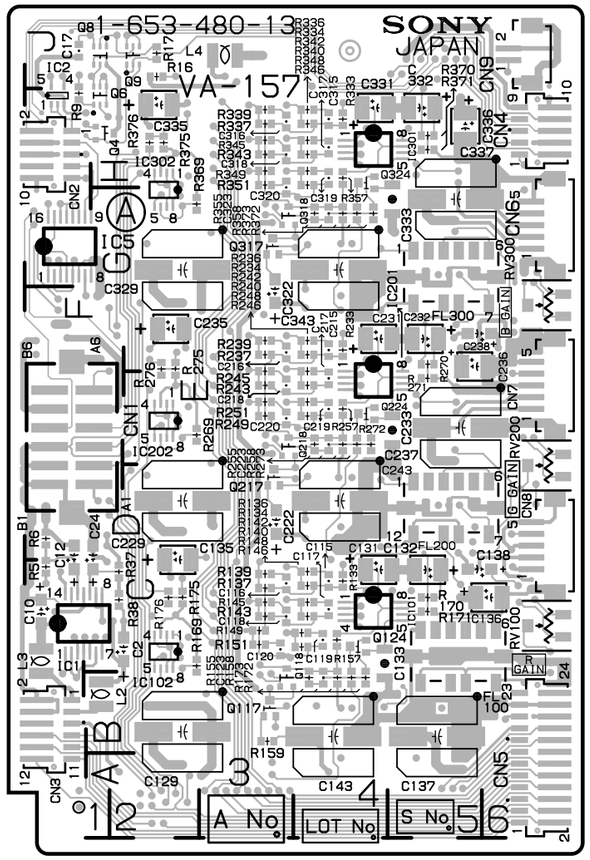
SH-55 -B SIDE-
1-653-481-11

SH-55(1-653-481-11)

C1	*B2	Q22	H3	R122	*H2
C2	*C2	Q23	G3	R123	*J2
C3	*G2			R124	*H2
C4	*D2	R1	C2	R125	*H2
C5	*C4	R2	*C2	R126	*J2
C6	*C2	R3	*B3	R127	*H2
C7	*B3	R4	*H1	R128	J5
C8	*G1	R5	*G1	R129	*A3
C9	*C1	R6	*H2	R130	D3
C10	C3	R7	*G2	R131	E2
C11	*D1	R8	*G2	R133	*C5
C12	*D4	R9	*G1	R134	*D4
C13	*D3	R10	*D2	R135	*B3
C14	*D2	R11	*C3		
C15	*D3	R12	*C2	*:B SIDE	
C16	*D2	R13	*B3		
C17	*C5	R14	*D2		
C18	F2	R15	*C4		
C19	*F1	R16	*C1		
C20	D4	R17	C3		
C21	E3	R18	*D1		
C22	F5	R19	*C3		
C23	*G3	R20	*D1		
C24	*G4	R21	*C3		
C25	*G2	R22	*D4		
C26	F4	R23	*E1		
C27	*H2	R24	*D3		
C28	*H2	R25	*D2		
C29	J3	R26	*E1		
C30	*J3	R27	*D4		
C31	*B1	R28	*D2		
C32	H5	R29	*D3		
C33	*B5	R30	*D2		
C34	*A3	R31	*E2		
C35	*F1	R32	*C5		
C40	*D2	R33	*D3		
C41	*C4	R38	*F3		
		R39	*J5		
CN1	H1	R40	*J5		
CN2	A1	R41	*F3		
CN3	A3	R42	*H5		
		R43	*G4		
D1	*G2	R44	*F3		
		R45	*H5		
IC1	*C2	R46	*J4		
IC2	*D2	R47	*F3		
IC3	*B3	R48	*H5		
IC4	*C3	R49	*J4		
IC5	*G1	R50	*G4		
IC6	*F2	R51	*H4		
IC7	*E3	R52	*H4		
IC8	*E2	R53	*G4		
IC9	*D5	R54	*H4		
IC10	*E3	R55	*G5		
IC11	*F5	R56	*G5		
IC12	*F4	R57	*H4		
IC13	*H4	R59	*G4		
IC16	*G4	R60	*H4		
IC17	*H3	R62	*G3		
IC18	*B3	R63	*H5		
IC19	*A4	R64	*H5		
IC20	*B4	R65	*G3		
IC21	J4	R66	*H5		
IC23	H4	R67	*G2		
		R68	*G3		
L1	*B1	R69	*H5		
L2	*B2	R71	*G3		
L3	*B5	R72	*H4		
L7	*B5	R98	*G3		
L8	*B1	R99	*G4		
		R100	*G3		
Q1	*E2	R101	*G4		
Q2	*E1	R102	*G4		
Q3	*D4	R103	*G4		
Q4	*D3	R104	*G4		
Q5	*E2	R105	*G4		
Q6	*E2	R106	*H4		
Q7	*D5	R107	*G3		
Q8	*D3	R108	*G3		
Q9	*H3	R109	*G3		
Q10	*J3	R110	*H3		
Q11	*H3	R111	*H4		
Q12	*H2	R112	*H3		
Q13	*J2	R113	*H3		
Q14	*H2	R114	*H4		
Q15	J5	R115	*H3		
Q16	G3	R116	*H2		
Q17	G4	R117	*J2		
Q18	G4	R118	*H2		
Q19	G5	R119	*H2		
Q20	G5	R120	*J2		
Q21	G5	R121	*H2		

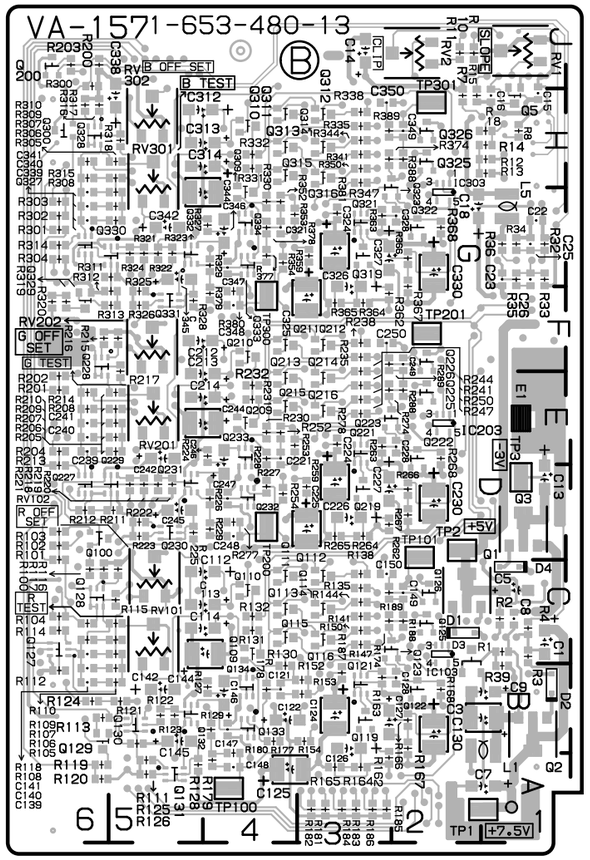
VA-157(1-653-480-13)

C1	*C1	C247	*D4	Q109	*C4	R16	J2
C2	C2	C248	*D4	Q110	*C4	R17	J2
C3	*B1	C249	*F2	Q111	*C4	R18	*H1
C5	*C1	C250	*F3	Q112	*C3	R32	*G1
C7	*A1	C312	*H5	Q113	*C4	R33	*G1
C8	*C1	C313	*H5	Q114	*C3	R34	*G1
C9	*B1	C314	*H5	Q115	*C4	R35	*G1
C10	C1	C315	H4	Q116	*C3	R36	*G1
C12	D1	C316	H3	Q117	B3	R37	C2
C13	*D1	C317	H4	Q118	B3	R38	C2
C14	*J3	C318	H3	Q119	*B3	R39	*C1
C15	*H1	C319	H4	Q121	*B3	R100	*C6
C16	*H1	C320	H3	Q122	*B2	R101	*D6
C17	J1	C321	*G4	Q123	*C3	R102	*D6
C18	*G2	C322	F3	Q124	C4	R103	*D6
C22	*G1	C323	G4	Q125	*C2	R104	*C6
C23	*G1	C324	*G3	Q126	*C2	R105	*B5
C24	D1	C325	*F3	Q127	*C6	R106	*B5
C25	*G1	C326	*G3	Q128	*C6	R107	*C5
C26	*G1	C327	*G3	Q129	*B6	R108	*C6
C112	*C5	C328	*G2	Q130	*B5	R109	*C5
C113	*C5	C329	G2	Q131	*A5	R110	*C5
C114	*C5	C330	*G2	Q132	*B5	R111	*B5
C115	C4	C331	H4	Q133	*B4	R112	*B6
C116	C3	C332	H5	Q134	*B4	R113	*B6
C117	C4	C333	G5	Q200	*J6	R114	*C6
C118	C3	C335	H2	Q209	*E4	R115	*C5
C119	C4	C336	H5	Q210	*F4	R116	*C5
C120	C3	C337	G5	Q211	*F4	R117	*C6
C121	*B4	C338	*H5	Q212	*F3	R118	*C6
C122	*B4	C339	*G6	Q213	*E4	R119	*A6
C123	B4	C340	*G6	Q214	*E3	R120	*A6
C124	*B3	C341	*G6	Q215	*E4	R121	*B5
C125	*A4	C342	*G5	Q216	*E3	R122	*B5
C126	*B3	C343	G4	Q217	D3	R123	*B5
C127	*B3	C344	*G5	Q218	E3	R124	*B6
C128	*B2	C345	*G5	Q219	*D3	R125	*A5
C129	B2	C346	*G4	Q221	*E3	R126	*A5
C130	*B2	C347	*G4	Q222	*E2	R127	*B4
C131	C4	C348	*F4	Q223	*E3	R128	*A5
C132	C5	C349	*H2	Q224	E4	R129	*B4
C133	C4	C350	*H3	Q225	*E2	R130	*C4
C135	D2			Q226	*F2	R131	*C4
C136	C6	CN1	E1	Q227	*D6	R132	*C4
C137	B5	CN2	H1	Q228	*F6	R133	C4
C138	C5	CN3	B1	Q229	*D5	R134	C4
C139	*B6	CN4	H6	Q230	*D5	R135	*C3
C140	*B6	CN5	A6	Q231	*D5	R136	C4
C141	*C6	CN6	G6	Q232	*D4	R137	C3
C142	*B5	CN7	E6	Q233	*E4	R138	*C3
C143	B4	CN8	D6	Q300	*H6	R139	C3
C144	*C4	CN9	J6	Q309	*G4	R140	C4
C145	*B5			Q310	*H4	R141	*C3
C146	*B4	D1	*C2	Q311	*H4	R142	C4
C147	*B4	D2	*B1	Q312	*H3	R143	C3
C148	*A4	D3	*C2	Q313	*H4	R144	*C3
C149	*C2	D4	*C1	Q314	*H3	R145	C3
C150	*C3			Q315	*H4	R146	C4
C212	*F5	E1	*E1	Q316	*H3	R147	*C3
C213	*E5			Q317	G3	R148	C4
C214	*E5	FL100	C5	Q318	G3	R149	C3
C215	F4	FL200	D5	Q319	*G3	R150	*C3
C216	F3	FL300	G5	Q321	*G3	R151	C3
C217	E4			Q322	*G2	R152	*B3
C218	E3	IC1	C1	Q323	*H3	R153	*B3
C219	E4	IC2	H1	Q324	H4	R154	*B3
C220	E3	IC5	G1	Q325	*H2	R155	B4
C221	*E4	IC101	C4	Q326	*H2	R157	C4
C222	D3	IC102	C2	Q327	*G6	R158	B4
C223	E4	IC103	*C2	Q328	*H6	R159	B3
C224	*D3	IC201	F4	Q329	*F6	R162	*A3
C225	*D3	IC202	E2	Q330	*G5	R163	*B3
C226	*D3	IC203	*E2	Q331	*F5	R164	*A3
C227	*D3	IC301	H4	Q332	*G5	R165	*A3
C228	*E2	IC302	G2	Q333	*G4	R166	*B2
C229	D2	IC303	*G2	Q334	*G4	R167	*B2
C230	*D2					R168	*B2
C231	F4	L1	*B1	R1	*C1	R169	C2
C232	F5	L2	B1	R2	*C1	R170	C5
C233	E5	L3	C1	R3	*C1	R171	C5
C235	F2	L4	J3	R4	*C1	R172	B4
C236	F5	L5	*G1	R5	C1	R173	B4
C237	E5			R6	D1	R174	*C3
C238	F5	Q1	*C2	R7	*H2	R175	C2
C239	*E6	Q2	*B1	R8	*H1	R176	C2
C240	*E6	Q3	*D1	R9	H1	R177	*B4
C241	*E6	Q4	H1	R10	*J2	R178	*B4
C242	*E5	Q5	*H1	R11	*J2	R179	*A4
C243	D4	Q6	H1	R12	*H1	R180	*B4
C244	*E5	Q8	J1	R13	*H1	R181	*A3
C245	*D5	Q9	J2	R14	*H1	R182	*A3
C246	*E4	Q100	*D6	R15	*H2	R183	*A3



OHB-730 (UCJ) : S/N 10031 and Higher
OHB-730P (CE) : S/N 40011 and Higher
OHB-730WS (UCJ) : S/N 10026 and Higher
OHB-730WSP (CE) : S/N 40021 and Higher
OHB-750A (UCJ) : S/N 10076 and Higher
OHB-750AP (CE) : S/N 40021 and Higher
OHB-750WSA (UCJ) : S/N 10051 and Higher
OHB-750WSAP (CE) : S/N 40021 and Higher

VA-157 -A SIDE-
1-653-480-13

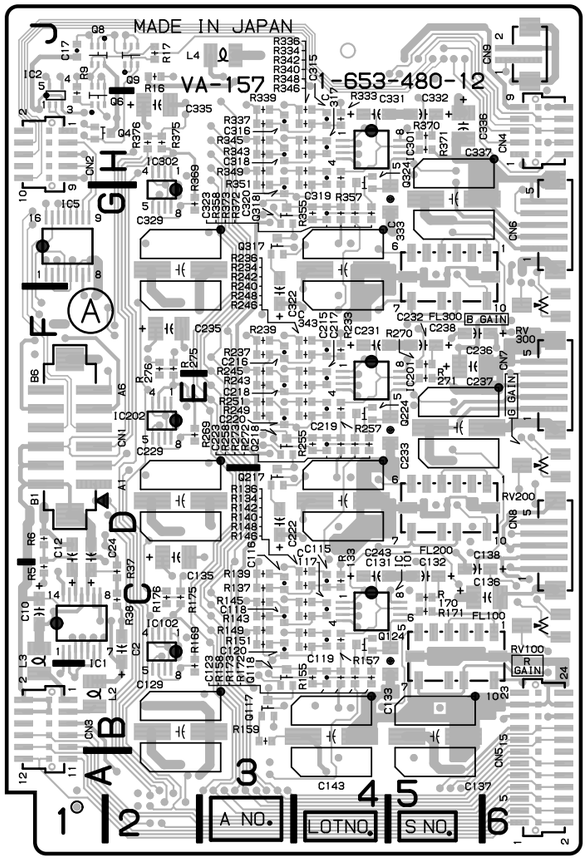


VA-157 -B SIDE-
1-653-480-13

R184	*A3	R308	*H6	TP201	*F2
R185	*A3	R309	*H5	TP300	*F4
R186	*A3	R310	*H5	TP301	*H2
R187	*B3	R311	*G5		
R188	*C2	R312	*F5		
R189	*C3	R313	*F5	*:B SIDE	
R200	*J6	R314	*G6		
R201	*E6	R315	*H6		
R202	*E6	R316	*H6		
R203	*J6	R317	*H6		
R204	*E6	R318	*H5		
R205	*E5	R319	*F6		
R206	*E5	R320	*F6		
R207	*E5	R321	*G5		
R208	*E6	R322	*G5		
R209	*E5	R323	*G5		
R210	*E5	R324	*G5		
R211	*D5	R325	*F5		
R212	*D6	R326	*F5		
R213	*D6	R327	*G4		
R214	*E6	R328	*F5		
R215	*F5	R329	*G4		
R216	*F6	R330	*G4		
R217	*F5	R331	*H4		
R218	*D5	R332	*H4		
R219	*D5	R333	H4		
R220	*D5	R334	H4		
R221	*D5	R335	*H3		
R222	*D5	R336	H4		
R223	*D5	R337	H3		
R224	*E4	R338	*H3		
R225	*D5	R339	H3		
R226	*D4	R340	H4		
R227	*D4	R341	*H3		
R228	*E4	R342	H4		
R229	*D4	R343	H3		
R230	*E4	R344	*H3		
R231	*E4	R345	H3		
R232	*E4	R346	H4		
R233	F4	R347	*H3		
R234	F4	R348	H4		
R235	*F3	R349	H3		
R236	F4	R350	*H3		
R237	F3	R351	H3		
R238	*F3	R352	*G4		
R239	F3	R353	*G4		
R240	E4	R354	*G4		
R241	*E3	R355	G4		
R242	F4	R357	H4		
R243	E3	R358	G4		
R244	*F3	R359	*G3		
R245	F3	R362	*F3		
R246	E4	R363	*G3		
R247	*E3	R364	*F3		
R248	E4	R365	*F3		
R249	E3	R366	*G2		
R250	*E3	R367	*G2		
R251	E3	R368	*G2		
R252	*E4	R369	G2		
R253	*E4	R370	H5		
R254	*D4	R371	H5		
R255	E4	R372	G4		
R257	E4	R373	G4		
R258	E4	R374	*H3		
R259	*D3	R375	H2		
R262	*D3	R376	H2		
R263	*E3	R377	*G4		
R264	*D3	R378	*G4		
R265	*D3	R379	*F4		
R266	*D2	R380	*F4		
R267	*D2	R381	*G3		
R268	*E2	R388	*H2		
R269	E2	R389	*H3		
R270	F5				
R271	E5	RV1	*J1		
R272	E4	RV2	*J2		
R273	E4	RV100	C6		
R274	*E3	RV101	*C5		
R275	F2	RV102	*C5		
R276	F2	RV200	D6		
R277	*D4	RV201	*E5		
R278	*E3	RV202	*F5		
R288	*E2	RV300	F6		
R289	*F3	RV301	*H5		
R300	*J6	RV302	*H5		
R301	*G6				
R302	*G6	TP1	*A1		
R303	*G6	TP2	*D2		
R304	*G6	TP3	*D1		
R305	*G5	TP100	*A4		
R306	*G5	TP101	*D2		
R307	*G5	TP200	*D4		

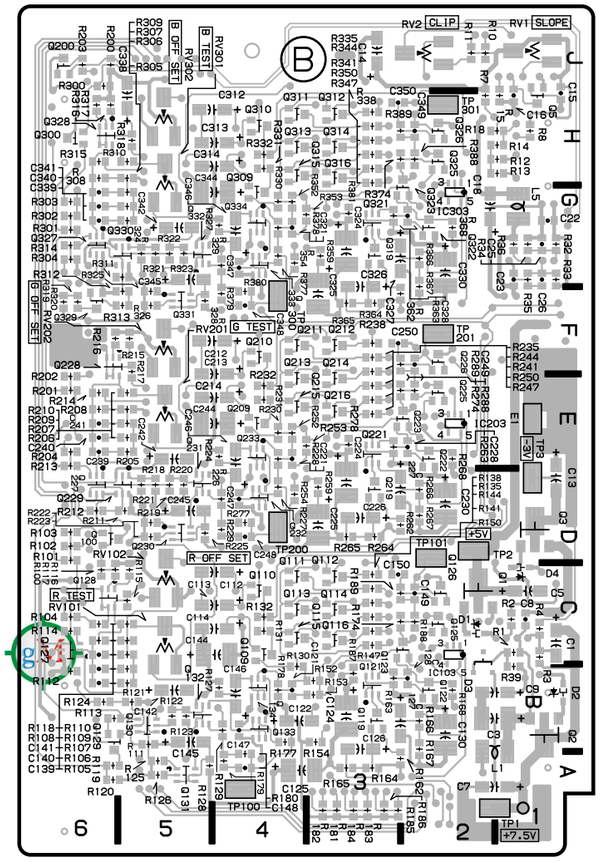
VA-157(1-653-480-12)

C1	*C1	C249	*F2	Q112	*D3	R32	*G1	R188	*C2	R313	*F5
C2	C2	C250	*F2	Q113	*C4	R33	*G1	R189	*C3	R314	*G6
C3	*B2	C312	*H4	Q114	*C3	R34	*G2	R200	*J6	R315	*H6
C5	*C1	C313	*H4	Q115	*C3	R35	*F1	R201	*E6	R316	*H6
C7	*A2	C314	*H4	Q116	*C3	R36	*G1	R202	*E6	R317	*H6
C8	*C1	C315	J4	Q117	B3	R37	C2	R203	*J6	R318	*H5
C9	*B1	C316	H3	Q118	B3	R38	C2	R204	*E6	R319	*F6
C10	C1	C317	H4	Q119	*B3	R39	*B1	R205	*E5	R320	*F6
C12	D1	C318	H3	Q121	*B3	R100	*C6	R206	*E6	R321	*G5
C13	*D1	C319	G4	Q122	*B2	R101	*D6	R207	*E6	R322	*G5
C14	*J3	C320	G3	Q123	*B3	R102	*D6	R208	*E6	R323	*G5
C15	*H1	C321	*G3	Q124	C5	R103	*D6	R209	*E6	R324	*G5
C16	*H1	C322	F3	Q125	*C2	R104	*C6	R210	*E6	R325	*G6
C17	J1	C323	G3	Q126	*C2	R105	*A6	R211	*D6	R326	*F5
C18	*G2	C324	*G3	Q127	*C6	R106	*A6	R212	*D6	R327	*G5
C22	*G1	C325	*F3	Q128	*C6	R107	*B6	R213	*E6	R328	*F4
C23	*G1	C326	*G3	Q129	*B6	R108	*B6	R214	*E6	R329	*G4
C24	D2	C327	*F3	Q130	*B5	R109	*B6	R215	*F5	R330	*H4
C25	*G2	C328	*F2	Q131	*A5	R110	*B6	R216	*F6	R331	*H4
C26	*F1	C329	G2	Q132	*B5	R111	*B5	R217	*F5	R332	*H4
C112	*C4	C330	*G2	Q133	*B4	R112	*B6	R218	*E5	R333	H4
C113	*C5	C331	H4	Q134	*B4	R113	*B6	R219	*D5	R334	J3
C114	*C5	C332	H5	Q200	*J6	R114	*C6	R220	*E5	R335	*J3
C115	D4	C333	G5	Q209	*E4	R115	*C5	R221	*D5	R336	J3
C116	D3	C335	H2	Q210	*F4	R116	*C6	R222	*D6	R337	H3
C117	D4	C336	H5	Q211	*F3	R117	*C6	R223	*D6	R338	*H3
C118	C3	C337	H5	Q212	*F3	R118	*B6	R224	*E5	R339	H3
C119	C4	C338	*J5	Q213	*F4	R119	*A6	R225	*D4	R340	J3
C120	C3	C339	*G6	Q214	*F3	R120	*A6	R226	*D4	R341	*J3
C121	*C3	C340	*H6	Q215	*E3	R121	*B5	R227	*D4	R342	J3
C122	*B4	C341	*H6	Q216	*E3	R122	*B5	R228	*E3	R343	H3
C123	B3	C342	*G5	Q217	D3	R123	*B5	R230	*E4	R344	*J3
C124	*B3	C343	F4	Q218	E3	R124	*B6	R231	*E4	R345	H3
C125	*A4	C344	*H4	Q219	*D3	R125	*A5	R232	*E4	R346	J3
C126	*B3	C345	*G5	Q221	*E3	R126	*A5	R233	F4	R347	*J3
C127	*B2	C346	*G5	Q222	*E2	R127	*B5	R234	G3	R348	J3
C128	*C2	C347	*G4	Q223	*E2	R128	*A5	R235	*F1	R349	H3
C129	B2	C349	*H2	Q224	E5	R129	*A4	R236	G3	R350	*J3
C130	*B2	C350	*H3	Q225	*E2	R130	*C4	R237	F3	R351	H3
C131	D4			Q226	*F2	R131	*C4	R238	*F3	R352	*H3
C132	C5	CN1	E2	Q227	*D6	R132	*C4	R239	F3	R353	*G3
C133	B5	CN2	H1	Q228	*F6	R133	D4	R240	G3	R354	*G4
C135	C3	CN3	B1	Q229	*D6	R134	D3	R241	*F1	R355	G4
C136	C6	CN4	H6	Q230	*D5	R135	*D2	R242	G3	R357	G4
C137	A5	CN5	A6	Q231	*E5	R136	D3	R243	E3	R358	G3
C138	D6	CN6	G6	Q232	*D4	R137	C3	R244	*F1	R359	*G3
C139	*A6	CN7	F6	Q233	*E4	R138	*D2	R245	F3	R362	*F2
C140	*A6	CN8	D6	Q300	*H6	R139	C3	R246	F3	R363	*F2
C141	*B6	CN9	J6	Q309	*H4	R140	D3	R247	*E1	R364	*F3
C142	*B5			Q310	*H4	R141	*D2	R248	F3	R365	*F3
C143	A4	D1	*C2	Q311	*H4	R142	D3	R249	E3	R366	*G2
C144	*C5	D2	*B1	Q312	*H3	R143	C3	R250	*E1	R367	*G2
C145	*B5	D3	*B2	Q313	*H4	R144	*D2	R251	E3	R368	*G2
C146	*B4	D4	*C1	Q314	*H3	R145	C3	R252	*E3	R369	H2
C147	*B4			Q315	*H3	R146	D3	R253	*E3	R370	H5
C149	*C2	E1	*E1	Q316	*H3	R147	*C3	R254	*D4	R371	H5
C150	*C3			Q317	G3	R148	D3	R255	E4	R372	G3
C212	*F4	FL100	C6	Q318	G3	R149	C3	R257	E4	R373	G3
C213	*F4	FL200	D5	Q319	*G3	R150	*D2	R258	E3	R374	*G3
C214	*E5	FL300	F5	Q321	*G3	R151	C3	R259	*D3	R375	H2
C215	F4			Q322	*G2	R152	*B3	R262	*D2	R376	H2
C216	F3	IC1	C1	Q323	*G2	R153	*B3	R263	*E2	R377	*G4
C217	F4	IC2	J1	Q324	H5	R154	*B3	R264	*D3	R378	*G3
C218	E3	IC5	G1	Q325	*H2	R155	B4	R265	*D3	R380	*G4
C219	E4	IC101	C5	Q326	*H2	R157	C4	R266	*D2	R381	*G3
C220	E3	IC102	C2	Q327	*G6	R158	B3	R267	*D2	R388	*H2
C221	*E3	IC103	*B2	Q328	*H6	R159	B3	R268	*E2	R389	*H3
C222	D3	IC201	E5	Q329	*F6	R162	*A2	R269	E3		
C223	E3	IC202	E2	Q330	*G5	R163	*B3	R270	F5	RV1	*J1
C224	*E3	IC203	*E2	Q331	*F5	R164	*A3	R271	E5	RV2	*J2
C225	*D3	IC301	H5	Q332	*G5	R165	*A3	R272	E3	RV100	C6
C226	*D3	IC302	H2	Q333	*F4	R166	*B2	R273	E3	RV101	*C6
C227	*D2	IC303	*G2	Q334	*G4	R167	*B2	R274	*E2	RV102	*D6
C228	*E2					R168	*B2	R275	F2	RV200	D6
C229	E2	L1	*A1	R1	*C1	R169	C2	R276	E2	RV201	*F4
C230	*D2	L2	B2	R2	*C1	R170	C5	R277	*D4	RV202	*F6
C231	F4	L3	C1	R3	*B1	R171	C5	R278	*E3	RV300	F6
C232	F5	L4	J2	R4	*C1	R172	B3	R288	*E2	RV301	*J4
C233	E5	L5	*G1	R5	C1	R173	B3	R289	*F2	RV302	*J5
C235	F3			R6	D1	R174	*C3	R300	*J6		
C236	F5	Q1	*C1	R7	*J2	R175	C2	R301	*G6	TP1	*A1
C237	E5	Q2	*B1	R8	*H1	R176	C2	R302	*G6	TP2	*D1
C238	F5	Q3	*D1	R9	J1	R177	*B4	R303	*G6	TP3	*E1
C239	*E6	Q4	H2	R10	*J2	R178	*B4	R304	*G6	TP100	*A4
C240	*E6	Q5	*H1	R11	*J2	R180	*A4	R305	*J5	TP101	*D2
C241	*E6	Q6	H2	R12	*H1	R181	*A3	R306	*J5	TP200	*D4
C242	*E5	Q8	J1	R13	*H1	R182	*A3	R307	*J5	TP201	*F2
C243	D4	Q9	J2	R14	*H1	R183	*A3	R308	*H6	TP300	*F4
C244	*E5	Q100	*D6	R15	*H1	R184	*A3	R309	*J5	TP301	*H2
C245	*D5	Q109	*C4	R16	J2	R185	*A2	R310	*H6		
C246	*E5	Q110	*C4	R17	J2	R186	*A2	R311	*G6	*:B SIDE	
C247	*D4	Q111	*D4	R18	*H2	R187	*C3	R312	*G6		



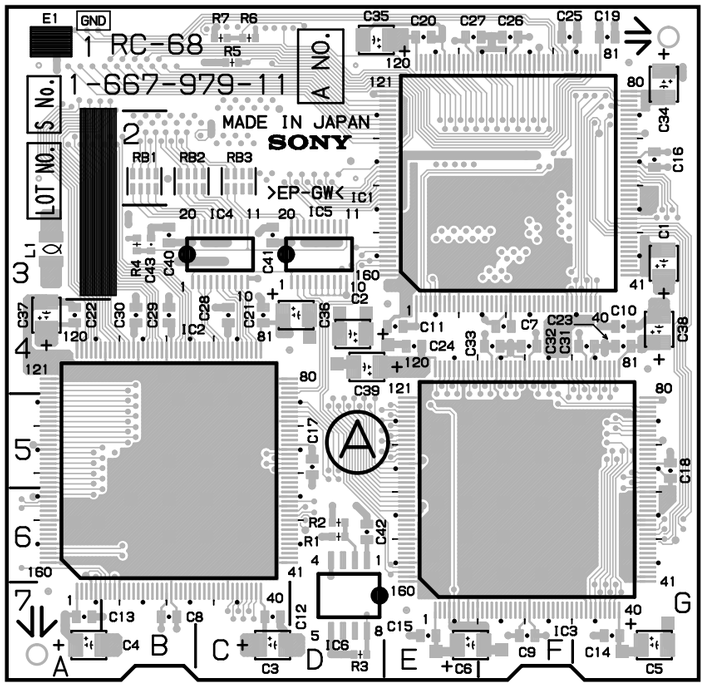
OHB-730 (UCJ) : S/N 10001 through 10030
OHB-730P (CE) : S/N 40001 through 40010
OHB-730WS (UCJ) : S/N 10001 through 10025
OHB-730WSP (CE) : S/N 40001 through 40020
OHB-750A (UCJ) : S/N 10001 through 10075
OHB-750AP (CE) : S/N 40001 through 40020
OHB-750WSA (UCJ) : S/N 10001 through 10050
OHB-750WSAP (CE) : S/N 40001 through 40020

VA-157 -A SIDE-
1-653-480-12

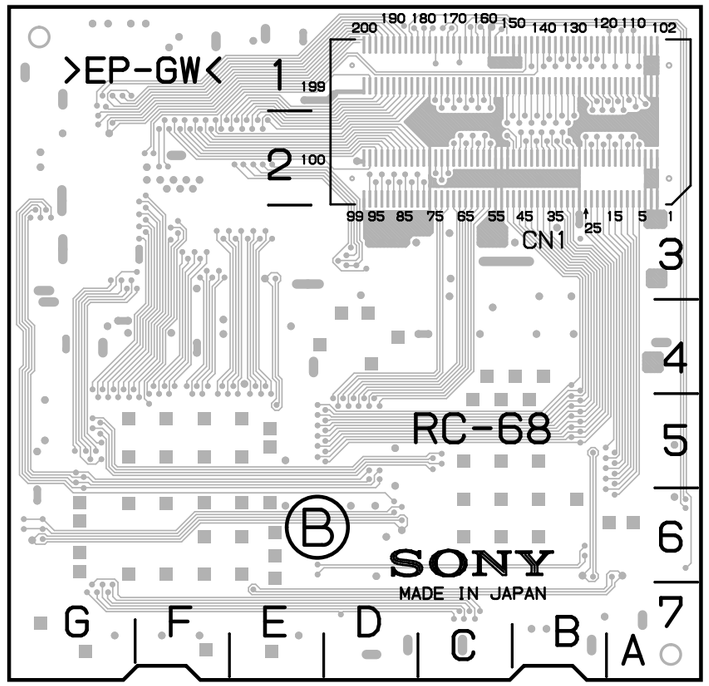


VA-157 -B SIDE-
1-653-480-12

RC-68 OHB-730WS/750WSA series



RC-68 -A SIDE-
1-667-979-11, 12



RC-68 -B SIDE-
1-667-979-11, 12

RC-68(1-667-979-11,12)

C1	G3
C2	D4
C3	C7
C4	A7
C5	G7
C6	E7
C7	F4
C8	B7
C9	F7
C10	G4
C11	E4
C12	C7
C13	A7
C14	G7
C15	E7
C16	G2
C17	D5
C18	G5
C19	G1
C20	E1
C21	C4
C22	A4
C23	G4
C24	E4
C25	F1
C26	F1
C27	E1
C28	C4
C29	B4
C30	B4
C31	G4
C32	F4
C33	F4
C34	G1
C35	D1
C36	D4
C37	A4
C38	G4
C39	D4
C40	B3
C41	C3
C42	D6
C43	B3
CN1	*C2
E1	A1
IC1	F2
IC2	B5
IC3	F5
IC4	B3
IC5	D3
IC6	D6
L1	A3
R1	D6
R2	D6
R3	D7
R4	B3
R5	C1
R6	C1
R7	C1
RB1	B2
RB2	B2
RB3	C2

*: B SIDE

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OHB-730P (CE)
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OHB-750AP (CE)
OHB-730WS (UCJ)
OHB-730WSP (CE)
OHB-750WSA (UCJ)
OHB-750WSAP (CE) J, E
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